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INFECTION OF THE BILIARY TRACT.*

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During the last thirty years the increasing knowledge pertaining to the subject of bacterial invasion of obscure parts of the body and the consequent septic processes engendered thereby has, by means of modern methods of aseptic surgical technique, laid bare the secrets of many forms of heretofore obscure disease.

The advance in this line has been, probably, more marked in the abdominal viscera than in other portions of the body. The reason for this is doubtless due to the greater relative frequency of disease due to bacterial infection in this region, which frequency is explained by the fact that the viscera are so constructed as to permit of the comparatively easy invasion of pathogenic germs, either directly into the peritoneal cavity, as occurs so frequently via vagina, uterus and fallopian tube, or into a cul de sac, such as the appendix or gall-bladder, when, their discharge being prevented by reason of closure of the out-

let of the viscus by some pathologic process, they rapidly multiply.

There exists, in this way, three principal vulnerable points in the otherwise well protected peritoneal cavity, viz: the female genital tract, the appendix vermiformis and the biliary tract. The pancreatic ducts are also liable to the same invasion, but this occurrence is extremely rare as compared with the other three sources of dangerous infection, and, when present, is usually in connection with a bile tract infection, caused by a stoppage of the duodenal orifice of the diverticulum of Vater, as the duct of Wirsung and the common bile duct both empty their contents here together before the pancreatic and hepatic fluids pass into the duodenum. A distal occlusion would thus affect both systems of ducts. Acute infective pancreatitis, resulting in abscess of the gland, would likely ensue.

Since Lawson Tait exhibited to his astonished and unbelieving confreres his first specimens of fallopian tubes and ovaries removed because of infectious disease, the field in the work that he thus started has been gradually widening.

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With the acceptance of Tait's views of the etiology of the pyosalpinx came the change in the point of view taken in the cases of so-called typhlitis and perityphlitis and perityphlitic abscess. The appendix was found to be the starting point of these inflammations and the further discovery was made that infection of its cavity was the etiologic factor in the disease.

The knowledge of gall-stones as a pathologic entity is almost as old as the science of medicine, but the scientific recognition of infection, *per se*, of the biliary tract is still in its infancy, and comparatively little reliable data on the subject could be found in text books or monographs until quite recently. A distinct advance in the literature of this subject is shown by the publication of the Transactions of the Congress of American Physicians and Surgeons for 1903, which gives the monographs of a number of some of the world's most distinguished physicians and surgeons, read at its meeting in a symposium on the subject of diseases of the pancreas, gall-bladder and bile ducts. These essays represent one of the most notable and interesting contributions to medical literature that has ever been produced by any medical society, the work, embodying, as it does, the most that there is known on these subjects up to the present date. Mayo Robson's third edition of "Diseases of the Gall-Bladder and Bile Ducts," just published, gives to the profession rare information on these subjects.

In the consideration of the subject of infection of the biliary tract the frequently accompanying condition of cholelithiasis must necessarily receive some attention. That gall-stones may be the direct result of infection has been proven quite conclusively, and yet we find that only a very

small percentage of gall-stone cases produce symptoms, consequently we must infer that either the nature of the infection which caused the growth of the stones must have been of a very mild character or that nature effected the elimination of the infective germs after the stones were formed. The latter supposition is probably correct, as many cases of biliary calculi come to operation in which no pathogenic bacteria are found in the bile. On the other hand, the presence of gall-stones, by constant irritation of the mucous membrane, cause a pathologic condition that is favorable to the introduction of pathogenic bacteria.

Notwithstanding these facts and that most cases of infection are attended by cholelithiasis, many cases come to operation in which gall-stones are supposed to be present previous to operation, but the operation reveals an infection only to account for the severe symptoms. Hence, as this field of abdominal surgery is opening up more and more, it is found that infection plays a greater part than was previously supposed.

Mayo Robson says regarding infective cholangitis: "It is usually due to gall-stones in the common duct, which favor the entrance of organisms from the intestines through the duodenal orifice, but anything causing obstruction of the common or hepatic ducts may lead to infection of the retained bile."

The combined symptoms of pain, fever and jaundice do not always signify the presence of a stone, but these symptoms do signify the presence of inflammation which may come from the occlusion of the hepatic or common duct by a stone, thus causing a stasis of a previously infected bile, or the very same combination of symptoms may result from any other cause that will temporarily occlude the

(Continued on page 192.)

The accompanying diagnosis chart is taken from Dr. Geo. E. Brewer's article on "The Differential Diagnosis of Diseases of the Gall-Bladder and Bile Ducts," read at the Congress of American Physicians and Surgeons at Washington, in May, 1903.

INFLAMMATORY DISEASE.

<i>Pathological Condition</i>	<i>Pain</i>	<i>Fever</i>	<i>Vomiting</i>	<i>Jaundice</i>	<i>Tumor of gall-bladder</i>	<i>Urine</i>	<i>Stools</i>	<i>Liver</i>	<i>Spleen</i>	<i>Ascites</i>	<i>Remarks</i>
(a) Cholecystitis subacute.	Present; paroxysmal during periods of cystic duct closure from stone or swollen mucous membrane	Present during attacks of colic.	May be present.	No.	Present during attacks of cystic duct obstruction.	Negative.	Normal.	Not enlarged.	Not enlarged.	No.	Tenderness over gall-bladder; tendency to recurrence; generally associated with stones in gall-bladder.
(b) Cholecystitis acute.	Acute paroxysmal radiating pain; extending to back and shoulder; may be very severe.	Present with chills and sweats.	Present; often severe.	No.	Present; tenderness; often muscular rigidity.	May contain albumin and casts.	Normal.	Not enlarged.	May be enlarged; (Sepsis)	No.	May follow typhoid or other septic diseases; onset often sudden; rapid development of severe symptoms resembling appendicitis; may be necrosis of walls of gall-bladder with perforation, local or general peritonitis.
(c) Cholecystitis chronic (empyema of gall-bladder).	Severe radiating pain at first; may disappear later; tendency to recur.	Present; severe at first, may diminish later.	Present at first.	No.	Present; with tenderness; may attain large size.	Negative.	Normal.	Not enlarged.	Not enlarged.	No.	Frequently follows acute cholecystitis; occasionally becomes quiescent, presenting practically no symptoms.
(d) Cholecystitis in previously diseased and contracted gall-bladder.	Present; often severe; paroxysmal.	Present; often with chills and sweats.	Present.	No.	No. (Occasionally present due to pericystic exudate).	Negative.	Normal.	Not enlarged.	May be enlarged; (Sepsis)	No.	Generally tenderness over gall-bladder area, but no tumor; local peritonitis; diagnosis often extremely difficult.
(e) Cholangitis of hepatic and common ducts.	May be absent; generally present when obstruction exists, or severe infection; tenderness and pain over liver in intra-hepatic cholangitis.	Present; chills; sweats; severe prostration; general sepsis.	Present.	Present; variable.	No.	May contain bile pigment, albumin and casts.	May be clay colored.	Enlarged.	Enlarged; (Sepsis)	No.	Often follows severe infections of gall-bladder generally associated with stones in common or hepatic ducts; severe sepsis; generally fatal in virulent infections (streptococcus).

common duct, while pathogenic germs are present in the bile. Old adhesions, causing a kink in the duct, congestion of the duodenal opening of the duct from indigestion, malignant tumors in this region, enlarged lymph nodes, etc., may act in this manner. The germs finding access to the duct from an unusual patency of the duodenal orifice, may lodge there indefinitely without inducing any characteristic symptoms if the flow of bile be unimpeded, but once let this free flow be retarded so that the rapidly multiplying bacteria are not washed away, and the characteristic symptoms caused by the resulting ptomaine poisoning, tension of the parts, and absorption of bile, quickly appear. Cases of this kind are frequently treated for malaria, as the sharp attacks of chills and fever are very similar to those produced by the plasmodium. These attacks may be of any grade of severity, from a condition in which there may be very slight but rarely constant, rise of temperature, with little or no pain, jaundice hardly perceptible, foul breath, constipated bowels, etc., up to one in which the most violent symptoms are manifested, all pointing plainly to an affection of the gall-tract.

This great difference in degree of symptoms is probably due mainly to two factors, viz: (1) degree, or location, of occlusion of the bile duct, and (2) variety of infection. An infected gall-bladder with an occluded cystic duct and patulous common duct would tend to produce empyema of the gall-bladder with the common symptoms of abscess formation; fever, which would be constant during the closure of the duct, with tenderness in the region of the gall-bladder, but there would be no hepatic hypertrophy or jaundice, though severe paroxysms of pain might occur during the acute stage.

In cases of streptococcus infection the symptoms present would be more active, and those of peritonitis would be liable to soon manifest themselves. In gangrene of the gall-bladder, especially when the viscus is imbedded in dense adhesions and situated well up under the right lobe of the liver, the symptoms may be quite misleading and the cause obscure, as this condition may be attended by a temperature which is frequently depressed below normal for some length of time with occasional sharp rises above the normal point, while tenderness to pressure will not be very marked.

In cases of obstruction of either the common or hepatic duct the intensity and character of the symptoms will be governed largely by the degree and duration of the closure of the duct by the obstruction. A partial closure of the outlet of the common duct by a duodenitis and resultant cholangitis, will cause simple jaundice without fever, in cases in which no infection of the bile is present, and the patient may continue in this condition for several weeks with no symptom but the jaundice to indicate any interference with the hepatic function; but add to this condition a previously infected bile tract and the patient immediately becomes very ill, probably with chills, followed by a sudden sharp rise of temperature, severe pain, referred usually to the epigastric region, but frequently to other more remote parts, such as the sternum, right shoulder blade, etc. Jaundice and enlargement of the liver will begin to be apparent after 24 to 48 hours and will persist thereafter, according to the completeness of the occlusion. The temperature apex is quite marked in these cases, being very sharp, owing to the quick subsidence of the fever after the first sharp rise. Frequently a rise of three to four degrees will take

place in an hour or two, and this will as suddenly subside, registering normal or nearly so in two or three hours after. The subsidence to normal will remain if the duct reopen and continue patulous, but if, as is frequently the case, the duct is closed again in a day or two from some indiscretion in diet, or other cause, the same sharp rise again takes place with the accompanying pain.

The two case charts here presented illustrate this characteristic of temperature in gall infection. (Pp. 196-201.)

The hepatic enlargement often manifests itself with each attack, subsiding slowly with the disappearance of the fever. In cases in which the occlusion persists for some length of time, the hepatic hypertrophy becomes so marked that the organ may be thought to be a "floating liver."

The most common variety of infective germ is the colon bacillus, such frequent occurrence is no doubt due to the fact that it is always present in the alimentary tract and thus stands ready to enter the duct as the favorable opportunity offers.

The staphylococcus and streptococcus are also occasionally found to be the invading germs, and intestinal worms have been known to enter the common duct and cause an infection with all the symptoms of obstruction.

The typhoid bacillus probably plays a more important part as an etiologic factor in cases of mild infection than is realized by those who have not made careful and extended bacteriologic studies of cases of infected bile. Secondary infections after typhoid fever, with protracted low temperature and other symptoms of a mild character which resist medicinal treatment for a long time, are frequently due to the entrance of the typhoid bacillus

into the bile tract. This form of infection frequently persists for many months without causing symptoms of a characteristic nature to direct attention to the biliary apparatus. Patients thus infected may recover sufficiently from the initiatory disease to be up and about, though continuing weak and anæmic from the effects of the infection, until the constantly lessening calibre of the bile ducts, due to the subacute cholangitis induced by the presence of the bacillus reaches a point where the free flow of the bile is impeded, when the usual symptoms of occlusion occur. At first these manifestations are liable to be of such a mild character that they are attributed to disorders of digestion and treated as such, until a complete stoppage occurs with its attendant pain, fever and jaundice. If the common duct, in such a case, be large and its duodenal orifice patent, it is possible for the infection to do much damage to the gall-bladder and cystic duct before active symptoms of occlusion occur. It is thus possible for this low form of infection to result in partial or complete atrophy of the gall-bladder and cystic duct without producing any symptoms of a violent or apparently serious character. When it is remembered that it is possible for the typhoid bacillus to continue its existence, almost indefinitely when favorably protected, the long continued and slow destructive action of this form of infection in this locality is explained and light is thrown on many cases of obscure hepatic disease.

The prognosis in any case of infection of the biliary tract is necessarily grave, whatever may be the nature of the invading germ or the degree of manifestation.

Treatment should be both medicinal and surgical. Internal medication is of

great value in palliative treatment in all cases, and may act curatively in cases of recent infection, as by it the patency of the ducts may frequently be preserved and the bile be made more free as well as more fluid in character, thus facilitating drainage through the natural channels. Carlsbad salts, phosphate of soda and other alkaline remedies are often of much service for this purpose. The writer has found the succinate of iron a useful remedy in some cases of catarrhal cholangitis. Diet, also, has much to do in the treatment of these cases, as indiscretion in the taking of food frequently brings on attacks of occlusion through the agency of a duodenitis resulting from the contact with its mucous membrane, of imperfectly digested or irritating articles of food.

Surgery offers the only radical curative treatment and should be resorted to when medicinal measures fail to give relief. Surgery should be called to the aid of these cases as soon as possible after reasonable medication has been tried and found wanting, and without waiting until such pathologic changes in the ducts, gall-bladder and surrounding tissues have occurred as would render such operative work futile, or, at best, a forlorn hope.

In simple infection, without gall-stones, the operation indicated—that of abdominal section with drainage of the gall-bladder—is one of the safest procedures in abdominal surgery when uncomplicated by any of the numerous sequelæ that are the usual result of neglect and procrastination. When, however, long continued infection has caused inflammatory exudates to be thrown out around the gall-ducts and an atrophied bladder, often binding them together with intestines, stomach and liver, the operation may become one of exceeding difficulty and

fraught with the greatest danger to the patient. The gall-bladder having considerable latitude of location, being found sometimes in the median line of the body, high up under the ensiform cartilage, and at others perhaps embedded in dense adhesions, well back under the right lobe of the liver, the search for it when atrophied and surrounded by such adhesions is one of the most difficult and delicate operative procedures. Such severe and dangerous operations may be avoided by early recognition of the infection and prompt operation. The presence of gall-stones complicates very greatly the case that comes to operation late, but to a much less degree when operated upon early.

Some interesting questions come up in carrying out the details of the treatment of these infected gall-bladders. Should the gall-bladder be extirpated and the parts closed without drainage? I believe this to be an exceedingly hazardous operation in all cases in which occlusion of the common duct, from a cholangitis has been present preceding operation, as the mucous membrane of the duct will still be liable to engorgement which, if it be sufficient to cause obstruction, would be almost surely fatal. Sudden deaths following extirpation are doubtless mainly due to this cause. In many cases a long continued drainage is necessary to permit the narrowly contracted ducts to recover their normal calibre.

What is the best method of drainage? The method must suit the conditions. A large gall-bladder may be sewed to the peritoneum at the abdominal incision, a glass or rubber drainage tube inserted, and the wound in both bladder and abdominal wall closed closely around it. If, however, many adhesions be present, the gall-bladder atrophied or displaced

and not to be brought forward to the abdominal wall without tension, the tube should be inserted into the bladder, the wound closed around it, and then iodoform or aseptic gauze packed firmly around the bladder and tube, and brought out through the abdominal wound, with the tube projecting from the middle of the packing. The great amount of serum poured out through a large gauze packing of this kind has a very beneficial effect by rapidly depleting the previously engorged tissues.

How long should such a drain be maintained? The gauze may be removed in from four to ten days, care being taken to leave it long enough for nature to have thrown out a strong lymph wall around it, so that the longer time is usually preferable. The tube should be kept in as long as there is any tendency to febrile action or any sign of obstruction of the duct. Logically, the drainage should be maintained until the bile shall be free from infective germs, but my own experience has taught that this is not necessary or, in fact, sometimes possible, as, in the first place, a long continued drainage seems to allow the ducts to acquire an amount of toleration sufficient to permit of the presence of the infection without causing a return of the inflammatory obstruction. Then again it is impossible in some cases to rid the bile of the invading germs. The tract may be washed out and disinfected from the fistula in the gall-bladder to the duodenum, but in a few hours' time the bile will be found to be as full of them as ever, as the hepatic duct and the system of smaller ducts above emptying into it, are untouched by the disinfectant and continue to furnish new and active germs to replace the ones washed out. The writer made a large

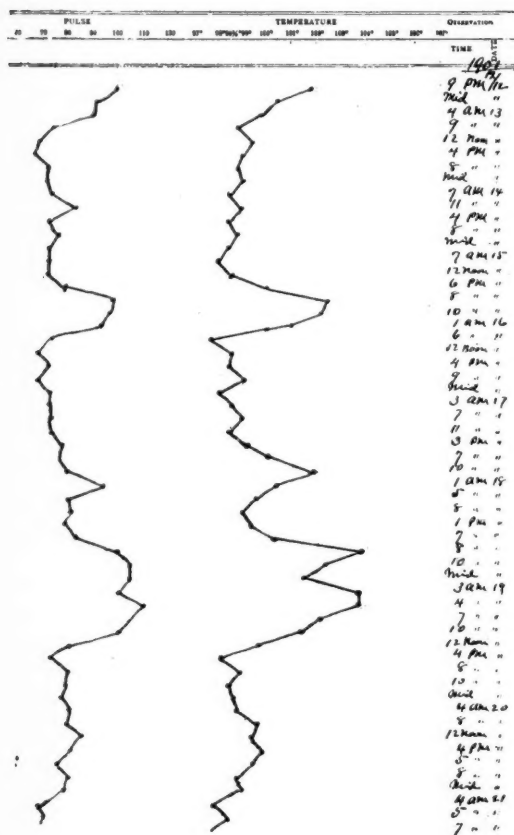
number of experiments on two cases of which a report will follow, and proved quite conclusively to himself that complete disinfection of the biliary tract is an impossibility, owing to the reason already stated. The experiments were made with bile infected in one case with the typhoid bacillus and in another with the colon bacillus. A number of germicides were tried, in the laboratory, on the infected bile of both of these cases and, as a result of those experiments, acetozone solution in sterile water, gr. viii to Oi was found to be the most efficient, and as it is practically non-irritating to the parts, it may be used freely for the purpose of irrigating the bile tract. Tincture of iodine 5i to Oi acted nearly as well as the acetozone, but it cannot be used as freely, as it is somewhat irritating to the gall-bladder and ducts.

I have selected from my case books the following four cases, each being typical of a variety of infection of the biliary tract:

CASE I. Typhoid bacillus infection. Male, 64 years of age. Had typhoid fever early in 1898, from which he made a slow recovery and remained anæmic and debilitated with symptoms of severe indigestion and frequent bilious attacks until the early part of June, 1899, when he was taken, while traveling, with a more violent attack than heretofore, of the supposed indigestion, the pain, which was in the epigastric region, being very severe and incessant for several hours, and vomiting almost constantly. Apparently there was no fever with this attack, but the temperature was not tried. No jaundice or fever was present when the patient was seen by the writer two days afterwards. Six months later, December 24th, 1899, another attack occurred while the

patient was under the observation of the writer. The pain came on suddenly after an indiscretion in diet, and was severe and paroxysmal in character, in fact, quite characteristic of gall-stone colic, and was so diagnosticated. No fever or jaundice. Patient in bed four days. Hypodermic use of morphine necessary for relief of pain at onset of attack only. An-

to the house for ten weeks. During this time he had several mild attacks of pain, each paroxysm being attended by a rise of temperature of from one to three degrees and persisting for a few hours only, slight jaundice also appeared with each attack. After recovery from this illness the patient spent the summer (1901) at Carlsbad, returning in the fall feeling and looking very much improved and having had no paroxysms, except a mild one, on the voyage over. He was now free from pain, again, for a period of nearly ten months, when on exposure to cold, precipitated an attack early in December following, which was attended from the beginning with an irregularly intermitting type of fever and gradually increasing jaundice, so that operation was decided on and the same performed December 22nd, 1901. Adhesions were found binding together all the viscera around the site of the gall-bladder, the lower end of which was discovered projecting through a mass of inflammatory tissue situated back under the margin of the left side of the right lobe of the liver. This was incised and the viscus found to be empty, containing neither bile nor gall-stones. Its cavity was very small and the walls were contracted in two places by cicatricial circular bands, dividing it into three compartments. The entrance to the cystic duct could be felt, after dividing these septa in the bladder, but a probe could not be passed. As the patient was too weak to bear any further surgical effort to find the obstruction, it was decided to trust to drainage for the immediate future, and do a second operation if necessary. A rubber tube was sewed into the gall-bladder and this organ stitched to the abdominal wall. A large amount of iodoform gauze was packed into the space



*Temperature & Pulse for 10 days
previous to operation*

CASE I—Typhoid Infection.

other attack of about the same mild character occurred one month later, January 30th, 1900, patient being confined to bed three days. After this he was free from any severe paroxysms of pain, though continuing weak and debilitated, until November 28th, 1900, (10 months interval) when a severe attack occurred, complicated by an influenza which confined him

below the right lobe of the liver and the gall-bladder, and brought out of the incision around the tube. The patient suffered some from shock, but rallied well after a few hours. A great quantity of serum, only, continued to ooze through the packing until the night of the second day after the operation, when a free flow of bile suddenly appeared. The temperature, which had been up from one to two degrees since the operation, now dropped, and during the following ten days registered from 98° to 99° F. The jaundice rapidly disappeared and the patient suffered no pain except that from the presence of the gauze packing, which was removed on the twelfth day. As soon as the bile appeared, a sample was sent to the Detroit Clinical Laboratory, for a bacteriologic examination. The report named the colon bacillus as the invading germ, but later and more extensive tests made with a number of specimens, determined the micro-organism to be the typhoid bacillus.

The drainage produced a rapid improvement in the condition of the patient in every way, but frequent examinations of the bile showed no change in the infected condition of the secretion, so that in the fifth month of the drainage it was decided to attempt to disinfect the bladder and ducts by injecting germicidal fluids through them. At first a solution of tincture of iodine 3i to Oi was used daily for several days, but was discontinued as it caused irritation, and the use of acetozone solution, gr. viii to Oi was commenced, and continued until the closure of the fistula.

A number of interesting facts were noted regarding the irrigation. The fluid passed readily through the bladder and common duct, into the duodenum, at

the rate of about a pint in half an hour. If the flow were allowed to pass into the bladder too rapidly it induced a pain referred to the left side of the sternum, similar in character to the pain experienced previous to operation. The immediate effect of the douching of the parts, as expressed by the patient, was beneficial, due apparently to the allaying of irritability of the mucosa of the tract. The fountain syringe was used, with the bag about a foot above the fistula.

Bacteriologic examination of the bile, immediately after the use of the acetozone, showed a diminution in the relative number of the bacilli, but after the flow of the bile had become well established again, say in three or four hours, the amount of infection and also the activity the common duct by a duodenitis and remained the same constantly. The occurrence of several slight rises of temperature, accompanied by mild pain in the region of the affected parts determined the continuance of the drainage for a period of six months, during the latter part of which time the patient was attending to his business, suffering only from the inconvenience of the drainage. Before allowing the fistula to close, the opening was plugged with the tip of a small olive-pointed bougie, thus preserving the patency of the way to the bladder, in case the forcing of the bile through its natural channel should, from some occlusion of the common duct, cause pain or rise of temperature. No such symptoms being observed, the plug was removed after two weeks' trial, and the fistula promptly closed.

Nearly a year after its apparent permanent closure it reopened after several days of slight fever during an attack of a mild influenza. A little bile and some pus discharged. It was disinfected daily with

the acetozone solution, and closed again in a few days without any further symptoms. The patient has gained steadily in health since the operation and has added about twenty-five pounds to his weight.

CASE II. Colon bacillus infection. Female, 45 years old. Mother of twelve children, the youngest $1\frac{1}{4}$ years old, which was nursed till present illness began. No menstruation since the last birth.

Began to have irregular attacks of fever, preceded by chill each time, about January 25th, 1901. Febrile attacks became more and more frequent until about February 15th, when fever began to be continuous with irregular exacerbations ranging from 100° to 105° F. No paroxysms of pain at any time and no marked tenderness anywhere. During the first two weeks of the attack the stools were light in color, but afterwards became normal. Urine dark brown since beginning of attack.

Examination March 22, 1901, by the writer, in consultation with the family physician, Dr. F. N. Henry. Skin over entire body mildly jaundiced; tongue dry and brown; pulse 120; temperature 103.2° F. Liver dullness extended from the eighth costal cartilage to the umbilicus where the edge of the organ could be easily palpated. Its surface felt smooth, and the whole liver could be moved to a considerable extent without causing pain. Tenderness in region of gall-bladder. Right kidney movable and displaced below ribs. Pelvic organs normal.

Diagnosis: Infection of the biliary tract with partial obstruction of the common duct, probably by pressure from some new growth. Exploratory operation advised.

Operation at Harper Hospital March 24th, 1902. Incision through right rectus muscle, beginning at level of umbilicus and extending downwards two and a half inches. On completion of the incision the fundus of a large distended gall-bladder rose into the opening. This was pushed aside and further examination made in the region of the ducts, where nothing abnormal could be found, although, owing to the immense size of the liver, a satisfactory palpation of the ducts could not be accomplished. To test the permeability of the common duct, the gall-bladder was grasped by the fingers and steady compression made for a short time, which resulted in very perceptibly diminishing its contents. Palpation indicated absence of calculi in the bladder, and no adhesions. The organ was then sewed to the parietal peritoneum at the upper angle of the incision, the latter closed completely and the bladder incised, evacuated, and its interior thoroughly examined. No stones were found. The bladder wall was thick and oedematous throughout. A rubber drainage tube was inserted, and held in place by one silk-worm gut suture passed through abdominal wall, edge of gall-bladder and margin of tube, and the balance of the wound closed by silk-worm gut sutures.

A culture on blood serum was made from a specimen of the bile taken at the time of operation, and the report from Dr. Joseph Sill, of the Detroit Clinical Laboratory, was as follows: "Culture shows a bacillus having the morphology and staining properties of the colon bacillus in pure culture."

The patient's temperature immediately preceding the operation was 102.8° F. The day following, it fell to 99.4° and

soon afterwards became normal and remained so. The tongue soon became moist and less coated and the jaundice rapidly decreased. The great hypertrophy of the liver lessened perceptibly day by day, and, by the time the patient left the hospital, four weeks after operation, had assumed its normal proportions. The flow of bile was very free, and during the first week an attempt was made to measure the quantity, but without entire success, as much of it leaked out around the tube. However, the first 24 hours twenty-two ounces were passed through the tube.

A number of bacteriologic examinations of the bile were made by Dr. Sill, and the colon bacillus always found. Many experiments were made at the Detroit Clinical Laboratory, with different reagents with a view of their use in irrigation of the infected bladder and ducts, and the same conclusion arrived at as was reported in the previous case which was infected with the typhoid bacillus. Daily irrigations were made with the acetozone solution, gr. viii to Oi while the patient was in the hospital, and with apparent beneficial local results. The drainage tube was left in when the patient was discharged from the hospital, and she was instructed as to its care.

On July 1st, following—11 weeks after the operation—the patient presented herself at my office with the drainage tube still doing duty. She looked badly, being cachectic and slightly jaundiced, but having no fever, and complained of pain and a swelling in the epigastric region. A very superficial examination was necessary to reveal the presence of a rapidly growing nodular tumor—apparently a sarcoma—situated between the umbilicus and sternum and apparently lying partly

under the latter. The growth, no doubt, was the original cause of the partial occlusion of the common duct; and as a small mass, was situated up under the enormously enlarged left lobe of the liver, which prevented its discovery at the time of operation. The patient died of exhaustion late in August following. The case was remarkable as illustrating the severe systemic symptoms which may result from a partially occluded, infected duct, with absence of local pain.

CASE III. Infection due to cholelithiasis. Female, 40 years old. Mother of two children, oldest ten years of age. Operation on cervix and perineum in September, 1901, at which time patient gave a history of having had digestive disturbances at various times and had been under treatment by a gastro-enterologist for the same.

In January, 1902, began to complain of attacks of pain after eating and returned to the care of the stomach specialist, who treated her for several months without benefit. In October following she came under the care of Dr. E. A. Chapton, who recognized the trouble as gall-stone colic.

At first there was no temperature or jaundice but the attacks of pain soon became more frequent and severe, when the symptoms appeared, and, the writer being called in consultation, advised immediate operation.

The liver was somewhat enlarged and the gall-bladder appeared distended and was sensitive to touch. Operation at the Woman's Hospital October 26th, 1902. Incision through the right rectus. Gall-bladder not adherent, largely distended, thick œdematous walls. It was first sewed to the peritoneal incision and, after closing the remainder of this—thus insuring the closing of the peritoneal cavity

to protect it against possible contamination—the bladder was incised. Instead of bile appearing there was evacuated about two ounces of thick clear mucus. On inserting the finger, gall-stones could be felt through a tough intervening wall of tissue. Being then uncertain of the exact condition, the peritoneal stitches were all removed, when, with the finger inside the cavity in the bladder, the situation was clearly made out, and after packing around the bladder with gauze, the dividing wall was punctured with forceps and the opening dilated. This gave entrance to the gall-bladder cavity proper, and was found filled with calculi and bile. Thirty-two stones were removed, the last eight being contained in the common and cystic ducts and removed quite easily by pressing them backward into the bladder with the finger on the outside of the duct. The gall-bladder was again stitched to the peritoneum, after removing the gauze, a tube inserted, and the wound closed with silk-worm gut sutures, one of which passed through drainage tube and edge of bladder incision. No bacteriologic examination of bile was made.

Recovery was rapid, all symptoms subsiding quickly after the operation. Drainage was continued for six weeks, when, no symptoms contraindicating, it was removed and the fistula allowed to close, which it promptly did.

Patient was perfectly well for six months, when, after a journey and some dietetic indiscretions, she experienced some pain and feeling of fullness in the region of the gall-bladder. Her temperature was 100° , and the scar at the site of the fistula was found protruding and soft. This was incised and a small amount of pus evacuated. This was immediately followed by a flow of bile, which con-

tinued off and on until October 8th, 1903, when closure of the fistula by operation was attempted. The fistula was enlarged by funneling out the cicatricial tissue from the skin through and into the bladder. The bladder was then thoroughly examined and irrigated. Considerable amorphous material of a dark brown color, apparently a deposit from the bile, was washed out, but no calculi found. The wound was closed with deep silk-worm gut and superficial buried kangaroo-tendon sutures. The temperature immediately rose and, for four days, ranged from 100° to 101° , and the patient complained of pain and fullness at the seat of operation, which appeared red and tense. On the fourth day of the wound opened a little pus was discharged, and the next day bile appeared on the dressings. After this the temperature became normal. The fistula continued to discharge bile, with occasional traces of pus, a small rubber drainage tube being used to prevent its entire closure.

In December following, the use of acetozone, (gr. viii to Oi) was commenced, and continued twice daily. The drainage tube was removed in January and the fistula allowed to close from the bottom, by opening the orifice from time to time by dilatation and incision, thus keeping it sufficiently patulous for the use of the acetozone solution. At present it is closed and has been so far for two months. If it reopens the gall-bladder may have to be extirpated, or cyst-enterostomy made to effect a cure.

The long continued drainage of this case with its incidental discomfort to the patient, led to the trial of several devices for collecting the bile and preventing the soiling of clothing and the saturation of dressings. None were satisfactory, so the

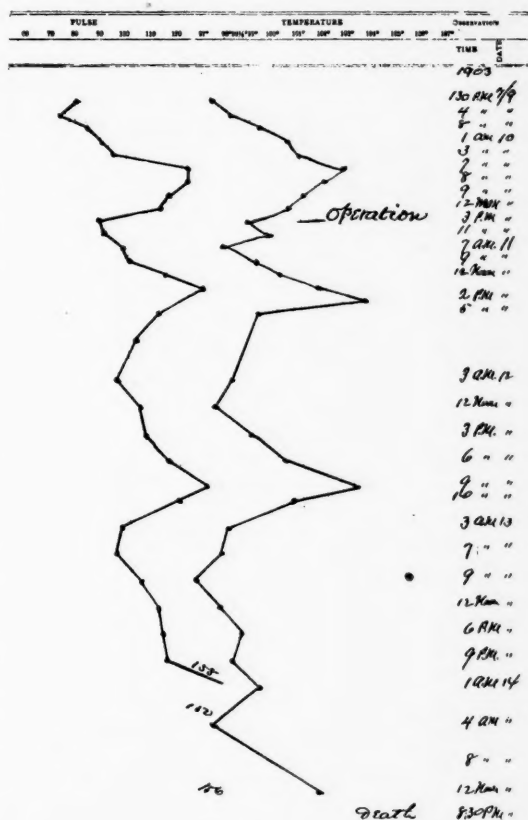
writer devised the appliance here shown. It is not unlike some colotomy pads but has the advantage, for this purpose, of having a thin, circular edge of rubber which presses sufficiently into the skin, around the fistula, to direct the flow of the bile from the skin into a small tube which conveys it into a rubber bag, which can be hung in a pocket attached to the clothing. This device worked perfectly and was a great comfort to the patient, allowing her not only to escape the annoyance of an occasional saturation of clothing with bile, but obviated the necessity of having the cumbersome dressings necessary to collect the immense amount of bile that sometimes flows from such fistulæ.

CASE IV. Gangrene of the gall-bladder; infection due to gall-stones ulcerating through colon.

Male, physician, 42 years old. Had suffered for sixteen years with frequent attacks of severe colicky pain in the epigastrium. Had consulted several brother physicians, among them a gastro-enterologist, but a diagnosis of gall-stones had never been made. Gastric lavage frequently gave relief during an attack, and this, with other treatment applied to the relief of the stomach symptoms, comprised the general course of treatment. Had had little or no fever with the attacks, and no appreciable jaundice, although the skin frequently assumed a bronzed color. His temperature was usually subnormal during the attacks.

The writer first saw the patient at Harper Hospital September 9th, 1903. He had had severe pain before coming to the hospital, but this had subsided. Nausea and hiccough persistent, and vomiting prevented only by frequent gastric lavage. Eyes and skin showed mild jaun-

dice. Examination showed no hepatic enlargement. Acute sensitiveness in the median line just below the ensiform cartilage, but none in the region of the gall-bladder or under the margin of the right lobe of the liver. Blood examination by Detroit Clinical Laboratory: "The smear shows a marked polynuclear leucocytosis—polynuclears 95 per cent. No malaria



Temperature and Pulse before and after operation

CASE IV—Gangrene of Gall-Bladder.

organisms could be found. The leucocytosis indicates a severe toxæmia, probably the result of infection."

Diagnosis of gall-stones, with infection of the biliary tract, was made, and operation advised if symptoms did not abate within twenty-four hours.

Temperature at 1:30 P. M. was 97.4°; pulse 78.

September 10, 7 A. M., temperature 102.6°; pulse 126.

September 10, 3 P. M., temperature 98.2°; pulse 88. Nausea and jaundice now marked.

Operation at 4. P. M. Incision at first through right rectus, 2½ inches long, and later, extended from upper angle, two inches to the right. Stomach, duodenum and colon were found matted together by old, strong adhesions and all grown fast to the entire lower margin of the liver, the colon forming a continuous line with the entire right lobe of the liver. No sign of the gall-bladder was visible. A hard nodule being discovered in the liver tissue about an inch above the adherent colon and about three inches to the right of the upper angle of the incision; after extending the latter toward it, it was incised and two large gall-stones removed. These, with the bile which escaped continually from the opening, had a strong faecal odor.

With the finger and probe, an opening was discovered passing into the adherent colon. The surrounding parts being protected by gauze, the bowel was dissected away from the liver and the fistula closed by two layers of Lembert sutures, the first of cat gut and the second of silk. An effort was then made, with the sound, to discover the duct leading into the cavity that had contained the stones, but without success, and, as the drainage seemed free, it was deemed best to rely on a continuation of it without farther dissection. A rubber tube was sewed into the cavity, gauze packed freely around it and the wound partly closed with silk-worm gut sutures. Drainage of bile through the tube continued very free, after operation, but the symptoms continued practically unchanged, no relief

following. The temperature remained nearly normal till the next afternoon, when it suddenly rose and dropped in the manner characteristic of gall tract infections. The record is as follows:

		Temperature. Pulse.	
September 11 (day after operation)	7.00 a. m.	97.6°	100
September 11	2.00 p. m.	102.6°	128
September 11	6.00 p. m.	99°	112
September 12	3.00 a. m.	98°	96
September 12	9.00 p. m.	103°	130
September 13	9.00 a. m.	96.5°	112
September 13	9.30 p. m.	98°	114
September 14	1.00 a. m.	97.2°	158
September 14	4.00 p. m.	103°	170

Died at 8:30 P. M. Post-mortem examination made the day after death showed the following conditions: All viscera adjacent to the under surface of the liver were matted together by old, strong adhesions, and adherent to the liver. The inside of the stomach was carefully examined and found to be normal and free from scars. The liver was incised in a number of places, but no abscess or other abnormality discovered. The cavity in the liver, which had contained the gall-stones, was found to communicate by a small, short duct, with a very small, contracted gall-bladder, situated far back under the right lobe of the liver, having thick walls and being completely surrounded by dense adhesions, from which it was detached with difficulty. Three faceted stones were found in its cavity and the thickened walls were tightly drawn around these. The bladder contained no bile. On removal, the walls of the bladder, as well as some of the tissues immediately surrounding it, were found to contain a number of gangrenous spots.

Here, then, was a case in which a chronic chole-cystitis, induced by gall-stones, and doubtless constantly attended

by a mild form of infection, had existed for a number of years and had never been properly diagnosticated, although the findings at operation and autopsy indicated an intensity of inflammatory action in and about the biliary apparatus that must have caused symptoms that should have indicated the true nature and locality of the disease. That a case with such extensive cholecystic disease with gall-stones could have been treated for years for gastric disease, by several physicians of good standing in the profession, should act as a warning against the ancient habit of making slipshod or snap diagnoses. The employment of up-to-date methods and a careful analysis of symptoms should avoid all such catastrophies, as in this case served to untimely cut off this physician's life.

CONCLUSIONS: Infection of the biliary tract may occur either with or without the presence of gall-stones, and may be due to a variety of causes producing

symptoms which, while frequently obscure, are always sufficiently characteristic to permit of a diagnosis by careful analysis. Medical and dietetic treatment of especial value in cases of recent infection, where by maintaining a patulous duct and fluid condition of bile, good drainage thus secured may result in recovery, and in some cases where operation is contraindicated because of other complicating diseases, extreme debility, etc.

Operative treatment, to be of greatest service, should be resorted to early—before gross pathologic changes have occurred in and around the ducts and bladder.

Discontinuance of drainage should be tentative, so as to provide for its re-establishment if the ducts are found inadequate.

Acetozone solution, a safe and efficient disinfectant for irrigation of the tract, and should be used prior to closure of fistula.

EXTRA-UTERINE PREGNANCY.*

MORTIMER WILLSON,
Port Huron.

The name defines itself, and, of course, indicates the main feature of the pathological condition.

Aside from the mechanical accidents and impediments arising from the development of the ovum in its unnatural position, there are occasional phenomena associated with this condition whose consideration should be of interest to all

students of the processes and accidents of procreation.

Albuminuria gravidorum and eclampsia are of perennial interest to the pathologist and obstetrician.

Holt, in 1900, reported a case of eclampsia in a woman with abdominal ectopic pregnancy. This case would seem to militate against most of the theories formerly held as to the etiology of nephritis of pregnancy, and to strengthen the belief that the causative agent or agents are the results of embryonic tissue metabolism, which in some cases find too

*Read before Section on Obstetrics and Gynecology at the annual meeting of the Michigan State Medical Society at Grand Rapids, May 26, 1904, and approved for publication by Committee on Publication of the Council.

feeble anti-bodies in the maternal tissues and blood to neutralize their toxic effects.

The vomiting of pregnancy also is common in these ectopic cases. Here again the old theories of nervous reflexes from pressure or over-activity of the uterine tissues has largely obtained. How shall we account for the vomiting in these ectopic cases? The same tissues are not involved in over-activity, the same nerves are not subject to pressure, there is no pressure on the cervix.

It is highly probable that the toxins resulting from embryonic tissue changes are the efficient cause of this disorder in both normal and ectopic gestation. In hyperemesis the clinical picture of toxine poisoning is very perfect.

The question of the place where impregnation ordinarily takes place can not be determined by these cases, as it is possible the ovum might be arrested and wait there the invasion of the male cell. Henson claims that all conceptions take place outside the womb at the fimbriated extremity of the tube. Bischoff taught that the ordinary place of impregnation is the ovary. The weight of opinion of authorities is in favor of the tube as the seat of fertilization of the ovum.

The uterine mucosa is first, that of the tube second, and the serous membrane or peritoneum third and last, in suitability for the development of the impregnated ovum, and it is not unreasonable to suppose that many impregnated ova perish in the less suitable places where from defect of tubal morphology or function they have been located.

The cause of the arrest of the ovum is some mechanical obstruction, such as stenosis, sacculation, diverticula and adhesions causing more or less bending or constriction of the tube.

Some authorities deny the possibility of primary abdominal and ovarian pregnancy. Kelly regards it as settled that no well proven case of primary abdominal pregnancy is on record. It is not well to say it has never occurred.

Many authorities have denied the possibility of ovarian pregnancy. Bland Sutton had never believed in its occurrence till he went to Amsterdam in 1901 and saw the specimens of Tussenbroeck, with sections of foetus and ovary showing villi.

Undoubtedly most of the cases reported as abdominal and ovarian are primarily ampullar. As the ovum develops in the ampulla there is usually a tendency toward the fimbriated orifice. Thus hæmorrhage would take place and further crowd the ovum in that direction, being in the line of least resistance. Then possibly contraction of the tube would squeeze the sac into the abdominal cavity. If wholly detached the ovum will probably die and with the blood, be finally absorbed. Or it may be but partially detached and still have anchorage to the tube sufficiently extensive to nourish it for continued growth. If conditions are favorable it may even go on to full foetal development.

When the ovum lodges farther down the tube toward the uterus there is less tendency to tubal abortion, and by so much the more a liability to rupture. This usually occurs before the third month, though it sometimes goes on to full maturity. L. Benham reports a case which ruptured before the 20th day of gestation, and Mathewson, one associated with a normal uterine pregnancy in which both foetuses reached maturity.

When the fecundated ovum takes root in that portion of the tube within the uterine wall, we have the third main division of tubal pregnancy, interstitial or intra-

mural pregnancy. If it lies midway the wall of the uterus, the growth is toward the abdominal cavity and though it may go to term in very rare instances, it usually ruptures before or by the fourth month. If, on the other hand, the lodgment is very near the uterine cavity it develops in that direction, and we may have abortion into the uterus; or by thinning and absorption of the intervening tissues, it may go on to term and be born in the usual way.

The majority of foetuses which approach full development in these unnatural environments are more or less imperfect owing to defective nutrition. Unless operated on they die soon after term, and the limit of their development is usually attended by signs of labor.

In this fact lies a question as to what it is that induces normal labor. Some of the factors supposed to be determining in bringing on the phenomena called labor or parturition are mentioned by Hirst, as follows:

"Fatty degeneration of the decidua; completion of the muscular development of the uterus; accumulation of carbonic acid in the uterine sinuses; gradual expansion and obliteration of the cervical canal and consequent pressure of the ovum on the os uteri, etc."

It is evident from the labor phenomena of extra-uterine pregnancy that none of these is the essential factor, but it is far more likely that some oxytocic substance is developed by the tissue metabolism of the foetus or placenta, which substance, acting through the nerve centers, is the real cause of the phenomena of labor both in the normal and the ectopic cases.

But to return to the main topic. The first phenomena attending ectopic gestation are a more or less complete arrest of

menses and a more or less complete symptom complex of ordinary pregnancy. The patient will often tell you that she thinks herself pregnant, and that her last menstruation was not natural. She may complain of a sense of weight in the pelvis.

Aside from these symptoms there are no others until stretching of the tube gives rise to discomfort or real pain. This is very likely to be paroxysmal in character, partly from contractions of the musculature of the tube, and partly from sudden tensions on the peritoneal covering due to fractional yielding of the tube wall or occasional sudden increase in blood pressure. These phenomena persist in a greater or less degree until the death of the foetus and arrest of development, or until tubal abortion or rupture occurs.

We will not consider at length the matured extra-uterine foetus more than to say that it is exceedingly rare that the ovum reaches maturity and though one may chance on such a case, he is not likely to do so. Should he do so, operation is the only hope for the child, but it may be the most hazardous for the mother. If the child be evidently dead, and no symptoms of urgency assail the mother, to wait and watch until degeneration of the placenta has rendered operation more safe and free from the dangers of hæmorrhage, seems the better policy.

When, with the growth of the foetus in the tube, the limit of accommodation is nearing, the case of the mother is indeed one of constant and great danger. Should she have been fortunate enough to have consulted a careful and learned obstetrician, he may be to her, indeed, a saver of life. He carefully analyzes the history of her trouble, the signs of pregnancy noted one by one, the aberrations—especially the unnatural character of the last

menstruation—possibly though not always a history of more or less sterility, the first feeling of weight and vague discomfort, then the attacks of pain, possibly the history of a little hæmorrhage with a piece of fleshy substance, the uterine decidua vera. This history should suggest to him the possibility of extra-uterine pregnancy, and he should request an examination. Should his suspicions be well founded, he will probably find on one side or the other of the uterus an enlargement of the tube, ovoid in shape, pulsating, tender, giving an indistinct sense of fluid elasticity. The absence of fever excluding acute pyosalpinx, he will be justified in advising immediate operation.

The usual mortality in unoperated cases being nearly 70 per cent., his careful analysis, skilful examination, logical conclusion, and firm decision not to risk her life by temporizing, has saved her from imminent danger and probably from death. How many women have gone to death under the dull eyes and ignorant guardianship of incompetent physicians with the easy diagnosis of "heart failure," it is impossible to say. But we are thankful that every year sees a greater number of those who stand as guardians of the people's health who recognize and rightly interpret these danger signals. The operation in these unruptured cases is safe and easy, and differs in no material way from a simple ovariectomy.

But sometimes a patient does not consult her physician for the colic as she calls the pains from which she has been suffering, and some day, it may be when exerting herself in some household task, she feels a more than usually severe pain, and grows faint and weak, possibly falls to the floor, and, may be, passes into unconsciousness.

The physician is hastily called. He notes at once the pallor, the sighing respiration, the thready rapid pulse—not the slow pulse of ordinary fainting—and hardly have the nerves from the finger transmitted the impression of that pulse when it is interpreted in one word "hæmorrhage." Lower the head. No external signs of hæmorrhage, no history to guide him, the pulse gets thinner and fades away. What to do? Whisky? No. Normal salt solution in the quickest way, in any way, per rectum, hypodermically, both. Give strychnia, and if needed, give morphine, which relieves pain and secures quiet not only of the voluntary restlessness so often an accompaniment of hæmorrhage, but also intestinal peristalsis.

Some decry morphine in these cases. Do not trust the faddist. He will carry out his fad, though his patient tosses continually and keeps that little jet of blood flowing in the pelvis, when a little rest would save life. We must use common sense and if we have pain and restlessness, use morphine, notwithstanding the dictum of any supposed authority, or the opinion of the many small echoes, who without reason of their own, follow blindly some supposed high authority.

I would not use ice on the hypogastrium. It does harm by contracting the superficial arteries and increasing the blood pressure internally, and also is depressing to the vitality of the patient. Use heat to the extremities and to the whole body for very obvious reasons.

Don't disturb your patient for an examination, other than to assure yourself that the hæmorrhage is not per vaginam. Give liquids by mouth in small quantities frequently, as all the tissues are thirsty and calling for water.

When she is sufficiently rallied, make a very careful examination. You may feel that doughy mass mentioned in the books, and you may feel very little that seems amiss. It don't matter. You have your history and your symptoms; operate and tie off the bleeding vessels. Keep up the infusion of salt solution while you operate. Operate as quickly as possible; get to the bleeding part as soon as you can. You can clean out clots afterward. Stop the bleeding—that's the thing to do.

It don't make any difference now whether it is a tubal abortion, ampullar, isthmic or intramural rupture. It makes a great difference to your patient whether she loses a few ounces more of blood now or not. It makes a great difference to your patient whether she stays under the anæsthetic ten or fifteen minutes more than is absolutely necessary. Don't discuss it. Keep still and work rapidly.

Don't mess and pick and potter over details, but do the needful things, the vital things, get at the bleeding part, tie off, clean out with good warm normal salt solution, drain, close up the wound and stop the anæsthetic. To the bed and warmth and quiet. You have probably saved a life.

The above supposed case is one of free rupture into the abdominal cavity. Now once in a while we have rupture into the broad ligament, but such cases are rare. Joseph Price in over a hundred cases of ruptured tubal pregnancy found none that had ruptured into the broad ligament.

It is easy to understand that when such occurs, on account of tearing up the peritoneum and confining the extravasated blood, the pain will be much greater and the signs of hæmorrhage much less than in free rupture into the peritoneal cavity. Most of the pelvic hematoceles we used to

see mentioned in books and periodicals were of this nature.

In 1890 I saw Martin operate on what he had diagnosed as fibroid, on account of its hardness. When he enucleated it, he pronounced it a hematocele, but I think in fact it was a case of tubal pregnancy ruptured into the broad ligament. The resisting walls of the ligament had stopped the bleeding, and then a firm coagulum had formed. In time it would have been absorbed, or, becoming infected, would have given rise to a pelvic abscess.

The first case of extra-uterine pregnancy with which I had to do was in 1883. I was called in to see a post-mortem on a woman who had died of heart failure or any one of four different maladies, for there were four physicians who witnessed the passing away. There was much surprise and a good deal of personal explication when the abdominal cavity was opened and found full of blood clots. A ruptured aneurism said one; a case of abdominal apoplexy said another. The diagnosis was made, a little late for the patient it is true, when in the blood clots was found a two months old foetus, placenta, and membranes.

The next case was that of a very intelligent woman, 26 years of age, married four months. Menstruation had been regular, do not know whether it had varied from the normal or not. June 29th, 1892, had been out for a walk. On returning home was seized with pain in lower abdomen and grew very faint. Dr. W. E. Burtless, of St. Clair, saw her and administered the usual remedies and advised rest. I saw her on July 2nd in consultation with Dr. Burtless.

On examination I found what I took to be a mass of coagulated blood in the

left pelvis. The patient was very pale and weak and had a rapid, feeble pulse. I advised operation, but she had rallied somewhat from the first attack, similar, though not so severe, so she decided to postpone so radical a procedure.

Four days later, July 16th, I was sent for and asked to be prepared to operate. Evidently there had been more bleeding in the interval, as she was distinctly weaker and the pulse was more feeble and rapid. I hesitated to operate, and did so only on her solicitation that she be given a chance for life even if it was but one in a thousand.

Under ether anæsthesia I quickly opened the abdomen and was securing the bleeding vessels when the heart failed completely and she died on the table. This was a case of left side tubal pregnancy of two months or more. The rupture was about midway of the tube, and there were concentric layers of clots formed at several different times.

Mrs. K., aged 32, mother of two children. Had a miscarriage at three months the previous year. On the evening of July 16th, 1900, she was taken with violent pain in the lower abdomen and became unconscious. Dr. Burtless was hurriedly summoned and found her blanched and pulseless at the wrist. Restoratives were used and she partially rallied. In connection with Dr. Scholes, of St. Clair, I was called in consultation.

It was evidently a case of very free hæmorrhage. A careful examination for vaginam revealed no tumor in the pelvis. The hand externally by very gentle pressure made out what seemed a four or five months pregnant uterus, somewhat irregular in shape. The patient, notwithstanding the usual means of relief, continued in a state of collapse and it was decided

not to attempt an operation until some decided reaction could be obtained.

The patient lingered in much the same condition until the 18th and died. Autopsy showed an intra-mural pregnancy with rupture on the right side. The ruptured wall was but the peritoneum with a few muscular fibers beneath it. The pregnancy was advanced three or four months.

The next case I saw also occurred in the practice of Dr. Burtless. A German woman of about forty, with five normal labors and one miscarriage at three months, strong, muscular, and very fleshy.

On May 4th, 1903, was taken with severe pains in the abdomen and became a little weak. The abdomen became distended and it was with difficulty that the bowels were made to act. Dr. Scholes saw her in consultation. A week later I was called in as she had a similar attack. She had some fever and considerable abdominal pain. I could detect no tumor in the pelvis on account of the great amount of fat. She continued to have more or less fever and pain for a month and finally a tumor formed in the right iliac region.

She finally began to pass blood and pus per rectum, and noting some obstruction Dr. Burtless made a rectal examination and removed a partially decomposed foetus, which was followed by a large amount of blood and pus. About a week later the remainder of the placenta came away. The amount of blood was not at any time enough to weaken her, and we left it to nature to control, which she did in a day or two. The patient made an excellent recovery, and has been well ever since. Until the appearance of the foetus, though we entertained the theory

of extra-uterine pregnancy, we were uncertain as to the cause of the abscess.

So in this case the physicians did nothing but watch nature make the diagnosis, operate, and deliver the patient. The manner of her operation and delivery was peculiar but effective.

Since August, 1903, I have operated on three cases of extra-uterine pregnancy, two ruptured and one unruptured. The first of these occurred in a patient of Dr. G. H. Treadgold, of Port Huron. Mrs. S., age 24, one year married, never before pregnant. Had always been regular until the last two times she noticed that the flow was scanty, but had no idea that she was pregnant. August 20th was seized with rather severe abdominal pains. Dr. Treadgold was called and gave her a hypodermic. On the 22nd had a severe attack of pain but was better when the doctor came. August 24th, about 2 P. M. he was again called for the same cause. Found her pale, cold, without radial pulse and suffering severe pain. Recognizing the nature of the case, he gave her a hypodermic of strychnia and morphine and normal salt solution per rectum, and called me.

When sufficiently revived she was taken to the hospital and I operated that evening. As she was suffering and restless, she was given another hypodermic of morphine and strychnia, a double stream of saline solution was given under the breasts, and while passing under chloroform anæsthesia the pulse rose in volume and became slower.

She was a large and fleshy young woman and the abdomen contained a very large quantity of fluid and coagulated blood. The lesion was found in the wall of the uterus on the right side in the shape of a rent about one and one-half inches in

length. It was cleaned out and curetted and trimmed with scissors and stitched up with fine silk. The condition of the patient made it impossible to make a very complete toilet of the peritoneal cavity, which afterward led to the necessity of establishing drainage through the wound. This protracted the recovery somewhat, but she soon regained perfect health. I think it best under these circumstances to drain for a few days.

My next case was that of Mrs. M., age 26, married three years, never pregnant before. Had always had more or less dysmenorrhœa. She came to me in September, 1903, complaining of symptoms of pregnancy and recurrent pains in the right ovarian region. On examination I found an ovoid, pulsating and tender mass in the right tube—no fever. She stated that the pains were becoming more frequent and severe and that the last menstruation had been unnatural. I advised operation, which I did on September 24th, and found a right-sided tubal pregnancy, of about three weeks growth. It was situated about midway of the tube and was on the point of rupturing and did so on manipulation after being clamped off on both sides. As there was no loss of blood no drainage was used, and the patient speedily recovered.

The third was Mrs. T., age 33, married four years, one child two years and six months old. I learned that after her confinement she had some septic trouble in the pelvis. On January 5th, 1904, while moderately exerting herself, she felt a severe pain in the lower abdomen and soon became very faint. She had missed no menstruation and had noticed nothing unusual in the last one. Dr. E. E. Lewis was called and recognized the nature of the case at once, and applied the usual

remedies for restoring the circulation. I saw her about three hours later. She was nearly pulseless at the wrist, with sighing respiration and complained of severe pain in the right shoulder.

This transference of pain is one of the features of pelvic and abdominal lesions that has mislead some as to the true location of the trouble. I saw one case of ectopic pregnancy in which pain in the left sub-clavian region was the chief complaint of the patient.

Mrs. T. complained so bitterly of this shoulder pain that she was given a quarter grain of morphine with strychnia. Before my arrival her physician had given her a saline enema, which had had some effect on the pulse. About 6 P. M. I gave a good quantity hypodermically with good results.

It was impossible to get her to the hospital that night, so I left word that should her pulse indicate it she should be given

the saline infusion. This was given the latter part of the night together with strychnia.

The next morning she was taken to the hospital and I operated on her. I found the tube ruptured on the left side very near to the uterus. The rupture seemed more like an explosion and had entirely separated the tube from the uterus. G. Ross in *Am. Jour. Obs.* 1895, mentions a similar result. During the operation a double stream of warm saline solution was kept running under the breasts, with the result that the pulse was better at the close than at the beginning of the operation.

I do not think the pregnancy was beyond two weeks. As there was a great amount of blood and coagula in the abdomen I used a drainage tube which I removed on the third day. The patient made an uninterrupted recovery and rapidly regained her strength.

THE OPERATIVE TREATMENT OF CYSTOCELE AND PROCIDENTIA UTERI.*

JOHN N. BELL,
Detroit.

To Dr. Edward Reynolds, of Boston, is due the credit of first enunciating and demonstrating the sound anatomical and surgical principles which underlie the successful operation for repair of cystocele and prolapse of the uterus, and of devising an operation embodying his ideas.

Prior to the publication of his paper on this subject in "*American Medicine*,"

*Read before the Section on Obstetrics and Gynecology at the annual meeting of the Michigan State Medical Society at Grand Rapids, May 25, 1904, and approved for publication by Committee on Publication of the Council.

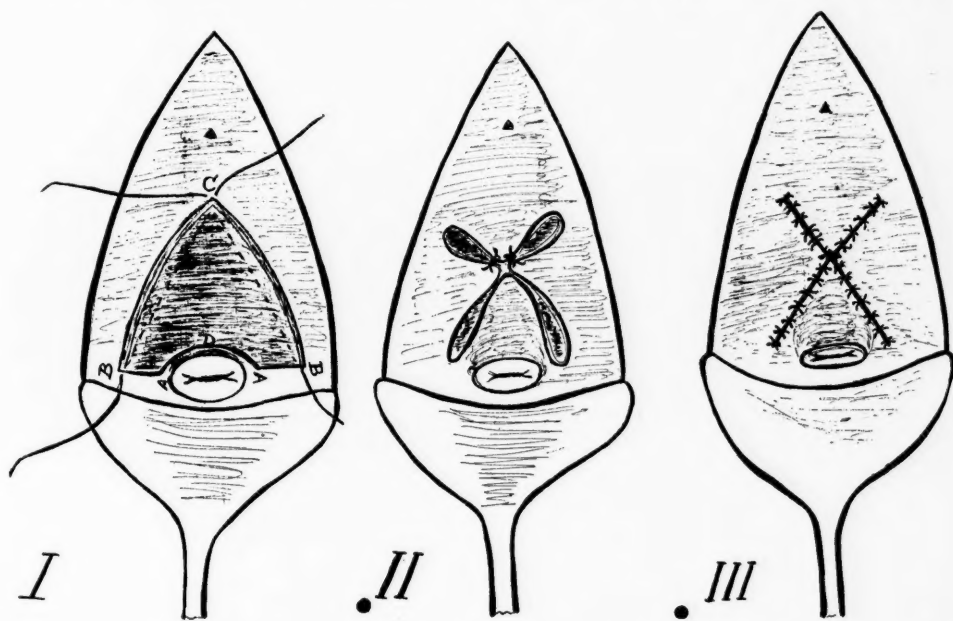
August 2, 1902, the operative treatment of cystocele and procidentia uteri was confined to a more or less superficial denudation of the anterior or lateral vaginal walls, removal of a section of the vaginal wall over the hernia only, almost complete closure of the vaginal opening, ventrofixation or hysterectomy. The superficial denudation and approximation of the denuded areas with transverse antero-posterior or purse string sutures was unsatisfactory, in many cases the united surfaces would become stretched and thin

again in the course of a few months; vaginal hysterectomy, too, proved unsatisfactory in many cases, merely removing one of the causes of the hernia, namely, the dragging downward of the upper end of the anterior vaginal wall by the uterus. Other plastic operations proved unsatisfactory because they did not take into consideration the necessary support of the upper end of the vesico-vaginal septum.

Believing that hernia of the anterior vaginal wall should be treated as hernia in other parts of the body, that the attachment of the lower end of the anterior

either side of the cervix. The thin stretched portion of the vaginal wall is then removed, sutures are then placed so as to connect points B and C, when they are tied the result is as shown in Fig. 2; the remaining strong fascial margins are approximated by interrupted sutures of chromicized cat gut, the operation when completed is shown in Fig. 3. The whole procedure being reinforced if necessary by repair of the perineum.

As a result of this operation the cervix is pushed upward and backward, thus placing the support of the upper end of



vaginal wall to the posterior surface of the pubic bones, and the attachment of the upper end of the vaginal wall to the cervix at its junction with the base of the broad ligaments formed the two anatomical points of true support, Reynolds devised the following operation:

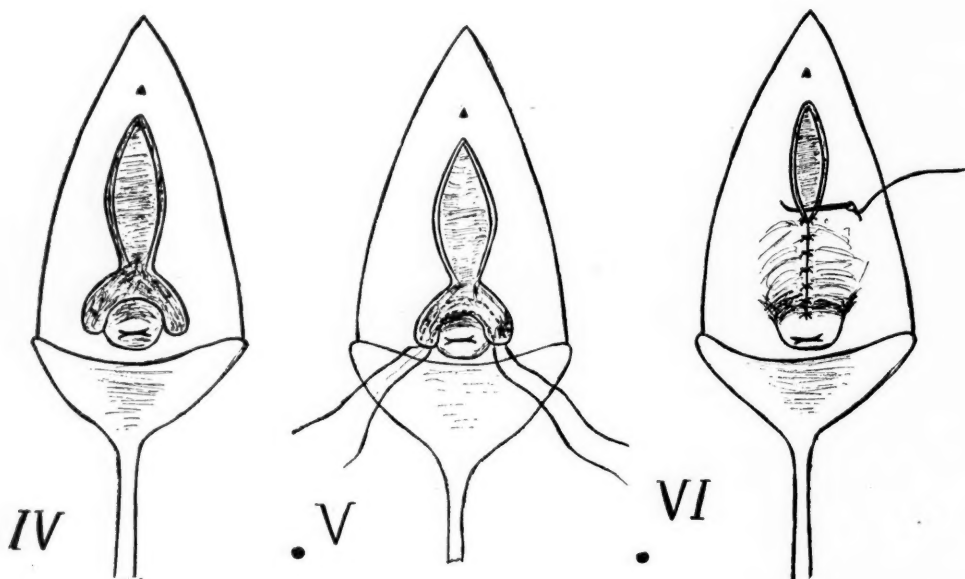
With the patient in the Simms position, the anterior vaginal wall is dissected away from the bladder by making a median incision from the points D to C as shown in figure 1, separating the flaps and carrying the dissection well down on

the anterior vaginal wall back to its normal position, (the base of the broad ligament,) and fixing it there.

Dr. E. C. Dudley, of Chicago, modifies the operation somewhat by carrying the dissection laterally upon the cervix as shown in Fig. 1, Chart 2. This latter I believe to be the better procedure as it throws the cervix well back into the hollow of the sacrum and unites the strong central part of the broad ligament in front of it.

In a recent communication, Dr. Reynolds informs me that he has operated upon about thirty cases by his method with uniformly good results. The writer has operated upon but two cases by the modified method of Dudley, both were successful, and one especially I wish to

smelling discharge and erythema of the vulva and inner aspect of thighs, dragging pain in the back and general discomfort. She had been cautioned by her old family physician never to submit to an operation. It is now nine months since I operated, and she is entirely cured of her



report somewhat in detail—that of Mrs. M., aged 57, who had given birth to one child 25 years ago. This patient had suffered from procidentia and frequency of urination for many years, and was obliged to wear a cup and stem pessary with belt and rubber cord attachments, in consequence of which she presented with a foul

troublesome symptoms and enjoying perfect health. My sole object in presenting this short paper is to enter a plea for a more extended trial of this operation, to the end that many suffering women may be spared the risk of more formidable operative procedures.

Some Newer Aspects of the Pathology of Fat and Fatty Degeneration (conclusions).—1. *Osmic acid* does not stain all forms of fat and fat alone, and so is but an imperfect method of demonstrating it. *Soridan III* and *Scharlach R*, though having disadvantages, give more satisfactory results.

2. Visually demonstrable fat is present normally in very many cells of the body, while extractive fat occurs in practically all of the tissues.

3. Under normal conditions visually demonstrable fat appears in cells in increased amount, and is an index of cell injury.

4. Fatty infiltration is the physiological appearance of fat in normal cells, and fatty degeneration is the appearance of fat in injured cells; the fat is an index rather than the direct result of cell degeneration.

5. Origin of the fat in both is probably the same and is mainly from without the cell by transport from fat depots elsewhere, but may arise within the cell from fat-related bodies, not from proteids.—(*Johns Hopkins Hospital Bulletin*, January, 1905, H. A. CHRISTIAN.)

OPERATIONS UPON THE PROSTATE.*

E. B. SMITH,
Detroit.

Operations on the prostate present the same history which new and radical operations have upon other organs. There was a seeking long ago for some medical remedy or surgical procedure that would give relief. Then a period when all attempts to relieve were suspended, and the symptoms were treated. Again a period when the profession seemed aroused to greater activity, bending all their energies toward the finding of "a sure and safe way" to overcome the condition that was robbing the middle-aged man of life and strength, and destroying those who had passed into life's last quarter.

Numerous remedies were given by mouth. Locally, iodine, ergot, hamamelis, hemlock, electricity, all had a trial. White's castration, with all its distressing sequels, was one of the first major operations for the relief of the hypertrophied prostate. Then vasectomy was quickly brought forward by Harrison, after he had used puncture of the gland with perineal drainage. The perineal section was tried in hopes of securing atrophy of the organ. Then Bottini's operation. All these were seen to be unsurgical, and the profession now realize with their experience derived directly from work done upon the prostate and adjacent parts, that the scientific treatment of chronic hypertrophy of the prostate is enucleation of a part or of the whole gland.

The *modus operandi* of the operation is not settled. For a long period vaginal and abdominal hysterectomies each had its champions, and so supra-pubic and the perineal route each has had its advocates, but with all conditions equal, the perineal route has many more defenders. The most vital part of the whole subject is to have that small portion of the medical profession which does not realize as yet the importance of an irritable prostate, know the great need of giving quick and thorough treatment in each case at the beginning of the trouble. Yes, I go further and say that acute, sub-acute, and chronic posterior urethritis, urethrocystitis, injuries and inflammation of the perineum, prostate and adjacent tissues, will receive more consideration, and so, better treatment as the result of the many operations upon the prostate gland. Then again they will open to a greater extent the medical and surgical treatment of bladder and urethral troubles, and will also prevent other serious genito-urinary conditions. An enlarged prostate predisposes to stone in the bladder. A large per cent. of operations on the prostate reveal this condition.

The diagnosis of hypertrophy of the prostate is easily made, requiring no special instruments. Simply inserting the educated finger up into the rectum will enable one to tell if the gland is well into the bladder. If it encroaches upon the rectum, the size may be partially made out. Under general anesthesia in thin subjects, bimanual manipulations will be an aid to diagnosis. The prostatic urethra is lengthened, and often requires

*Read before Section on Surgery, Ophthalmology and Otology at the annual meeting of the Michigan State Medical Society at Grand Rapids, May 25, 1904, and approved for publication by Committee on Publication of the Council.

a prostatic metal catheter to evacuate the bladder. With the lengthening, we very often have distortion of the urethra. The first real warning to the patient is a sudden retention of urine, due to cold, shock, etc.

The subjective symptoms are frequent and difficult urination, the patient first being obliged to empty the bladder at night, considerable exertion being required before the act is accomplished, and there may be incontinence of urine.

The size of the gland is not always a criterion of the extent of the damage. The cause of hypertrophied prostate is not clear. Sedentary habits, irrigation of the bladder, sexual excess (?), constipation, neglect in evacuating the bladder, cystitis, and masturbation are some of the factors. The negro seems to be exempt.

For the following reasons the perineal route is more preferable; when the mass is near the rectum, enucleation is easier, perineal drainage is better, the wound will

close more quickly, the patient can be made more comfortable, there are no vessels to ligate; when there is a contracted bladder, which is more or less so in senile cases; where a fistula remains, it is not as annoying, recovery is more rapid, there is less extravasation of urine, less danger of sepsis, and no abdominal mark.

The indications for the supra-pubic method are where the mass is high up—intra-vesical—where there is a large firm calculus, where the tumor is pedunculated, where only local anesthesia can be used.

Bottini's operation on account of the small mortality, and where the operator is inexperienced, may be the best. But operate, and give the poor suffering patient some relief. There is no class of patients who suffer more, none who are more thankful, than those who are relieved from the distressing train of symptoms that go with a chronic hypertrophied condition of the prostate gland.

TREATMENT OF TUBERCULOSIS.*

J. VERNON WHITE,
Detroit.

It is remarkable how slowly and with what difficulty the medical profession is beginning to realize the tremendous therapeutic importance of simple remedies. Such things as fresh air, light, exercise, rest, food and environment, which are manifestly the agents which maintain and influence human health and well-being, have long been over-looked or given a very secondary position, while some obscure or nearly unobtainable commodity,

the product of elaborate chemical processes, or found in remote and inaccessible quarters of the earth, has held medical attention and confidence.

But we are beginning to come into possession of our own. We are slowly coming to realize that these agencies which are most potent in maintaining life and health, are the very agencies which must be relied upon for the restoration of the diseased. This lesson has been brought home to us very forcibly by our struggle with pulmonary tuberculosis, and to-day

*Read before the Wayne County Medical Society, February 6, 1905.

the obscure chemical that professes to be a cure for this disease receives a cool and critical reception, not only from medical men, but from every intelligent layman.

Now, while the medical profession has little or no confidence in any drug as a cure for consumption, unless its therapeutic action has a rational explanation, there is, nevertheless, still remaining a belief in the curative value of some distant locality whose climate is advertised to possess peculiar, specific qualities inimical to the bacillus tuberculosis. There is not sufficient evidence to justify this belief. That a certain number of tuberculous patients recover when they go to these climates is a fact, but this fact is far from proving that the changed atmospheric conditions has anything to do with the improvement.

I wish to be perfectly fair in my criticisms, and I acknowledge that exact logical demonstration must not be demanded in discussing this question, but there are two fallacies in the argument commonly used by those who advocate change of climate for tuberculosis. One of these is obvious when we consider that when one of these patients leaves his home state, there are many factors other than climate that may and do have a tremendous bearing upon his health. For example, there is relief from arduous occupation, different diet and different surroundings. Now, these are as important, if not more important, than change of air. Then, again, it must be admitted that many of our tuberculous patients know very little of the fresh air and sunlight at their very door. They have not tried their native air, for, during the greater part of the sunlit hours they toil in some narrow, dark room. Obviously if such patient is forced from such environment, into open air and sunlight, whether a mile or a

thousand miles away, there will be improvement, but the question arises, "Why send him these thousand miles?"

We may entertain some misgivings as to the willingness of the mountain to move to Mohamet, but there is no doubt the wind bloweth where it listeth, and what is in Colorado to-day is here to-morrow.

What are the main factors that enter into the treatment of tuberculosis? First, diet; second, freedom from worry, overwork and mental depression; third, good, hygienic surroundings, including fresh air and sunlight; and fourth, medical attention. It is impossible to say that one of these is more important than another. They are all essential. We must not ignore any of them nor sacrifice one to obtain another, and this is exactly what happens in many cases.

The majority of these patients have little or no capital. To them traveling and the expenses incident to a change of climate are very burdensome. They are more than burdensome. They are actual hardships. A very sensitive conscience is usually one of the tuberculous virtues, and these embarrassing financial questions and domestic hardships result in great mental depression and worry on the part of the patient, and he is consequently in a very unfavorable condition to combat his deadly foe. His economy is usually practiced in seeking cheap food, which is a fatal frugality.

Then, all about in these popular health resorts, are to be seen hundreds of victims in different stages of the same disease, like the multitudes at the Bridge of Sighs. What could be more depressing? This picture is not overdrawn. The condition of the patients sent to these resorts is pitiable. It has attracted the attention

of humanitarians, and the popular magazines have lengthy articles discussing the best means of dealing with the destitution, disease and altogether lamentable condition prevailing among the thousands of consumptives sent away for health. These patients are far from home and friends. Their money and vitality gradually approaching a point of exhaustion, they still cling to a superstitious belief in the curative property of climate.

If the medical profession does not correct this error, it will be held answerable by the intelligent public. These patients should be kept at home or near home. They should have the fresh air and sunlight supplied in goodly amounts in Michigan, or any other state they may chance to live in. In this way there is a substantial conservation of the patient's means, and a corresponding prevention of worry and mental depression. Then they are within the care of friends. It almost amounts to brutality to send a man, weakened by consumption and financially cramped, to battle with a hoard of greedy, shrewd boarding-house keepers, camped upon the ground eagerly awaiting their prey.

These patients should be kept in easy reach of interested friends. In many cases the family physician's advice and medical attention is invaluable. Any method of treatment that deprives one of these patients completely of his family physician's care is radically defective. It may not be necessary to make daily visits, but the family physician should keep in touch with his patient's condition, and his advice should have an important bearing upon the treatment. To send a patient to distant parts of the country is diametrically opposed to some of the important features that go to make a rational treat-

ment for pulmonary tuberculosis. This same sentiment in a diminished degree, but with considerable force, may be urged against sending these patients to distant parts of their home state. A sanitarium for tuberculosis in the northern part of this state has most of the disadvantages of a more distant location for the patient whose home is in Southern Michigan. There is the loss of the attention of the family physician and separation from friends. While it is foreign to my purpose in this paper to discuss the details of treatment, I must refer to one fact in this connection.

A number of these patients are not only able to work, but a certain amount of occupation is desirable as a therapeutic agent. Now, when such patients are sent to a sanitarium in some distant part of the state, they are cut off from occupation, and when home are deprived of any and all sanitarium advantages. These patients may be kept under careful observation for months and years by occasional calls to a nearby sanitarium, or an occasional sojourn in it, for a few weeks or months, and still lose comparatively little time from a suitable occupation. This necessitates a sanitarium conveniently near to the home of the patient. Such a sanitarium in or not too far distant from Detroit would be of inestimable value to these patients and their friends, and in fact the whole city.

Dr. E. L. Shurley has done the pioneer work in this connection. He has not only demonstrated the feasibility of the treatment of these patients in their home state, but has shown conclusively that it is practical and economical.

I have tried to show in this brief paper some reasons why consumptives should receive treatment in their homes or in a sanitarium located close to their homes.

To attempt to describe the practical details of the working of such a sanitarium for the City of Detroit is beyond my purpose at this time. It would have all the advantages that can be urged in favor of a state sanitarium with several additional valuable features. The initial cost would not be great, and when once instituted would be to a great extent self-supporting.

The advantages to be derived from a city sanitarium for Detroit may be summarized as follows:

First—Many patients would receive all the benefits of the sanitarium with but little interference with regular occupation.

Second—The attention of the family physician would be retained.

Third—Complete separation from friends would not be necessary.

Fourth—The sacrifice, hardship and worry, attending a change of climate, would be prevented.

Fifth—The sanitarium would be of great assistance to Detroit Physicians who desire to assist in the struggle against tuberculosis. The interest of the physicians would be a guarantee against abuses.

Therapeutic Notes.

FOR MULTIPLE WARTS.—

R Spiritus oderatus..... \mathfrak{z} iii 90
Tinct. belladonna..... \mathfrak{z} ss 15
M.

Sig.: To be applied locally to hands.
(*Merck's Report.*)

FOR WHOOPING COUGH.—

R Sodii bromide.....gr. xiv. 3
Antipyrinegr. xv. 1
Glycerini \mathfrak{z} ii 8
Aq. cinnamrrii qs. ad..... \mathfrak{z} iii 90

Sig.: One teaspoonful every two hours for a child of one year. (*Medical News.*)

THIGENOL IN GYNECOLOGY.—Thigenol is more effective than ichthyol and has none of its disadvantages. It is employed on tampons in inflammatory conditions of the adnexa, parametritis and perimetritis. Blondel uses a mixture of equal parts of thigenol and glycerin.—(*American Journal of Medical Sciences.*)

A NEW HYPNOTIC.—Neuronal is bromodiethylacetamide, a white crystallized powder slightly soluble in water,

easily soluble in alcohol and resembles menthol in taste, with the addition of slight bitterness. According to Siebert, Zecker, and others, it produces a quiet slumber about one-half hour after its administration, with no unpleasant after-effects. The drug seems to have no accumulative action. The dose is from \mathfrak{z} $\frac{1}{2}$ to 30 grains.—(*American Journal of the Medical Sciences.*)

Food Preservatives.—V. C. Vaughan, Ann Arbor, Mich. (*Journal A. M. A.*, March 11), states that a true food preservative must keep the substance to which it is added in a wholesome condition so that it can be consumed without impairment of health. It must be a real preservative, keeping the food in a wholesome condition and not merely preserving the appearance of freshness while permitting bacterial changes to continue. It must not materially impair any of the digestive processes even in the largest quantities used, and should not be a cell poison, or if such to any extent, it must be added to foods only by persons qualified by special training and officially authorized. Foods containing these substances must be plainly labeled, and the kind and amount of the preservative used must be made known, not only to the buyer, but to each consumer. A cell poison is defined as an agent that destroys or impairs cell functions by its chemical action.

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Editorial.

DISTRICT MEDICAL SOCIETIES IN MICHIGAN.

The organization of the Michigan State Medical Society provides for three kinds of meetings: First, the annual meeting of the entire State; second, the annual meeting of the Councilor District Societies, and third, the Branch or County societies—meetings at varying intervals, of a week to semi-annually. Each meeting has its peculiar functions, and all together are intended to be mutually helpful, every day in the year. With the Branches rests the responsibility of selecting the members for all the meetings. If in good standing in any Branch each doctor is a member of his own District Society and the annual State Society meeting, as well as an honorary member of each other Branch.

The District Societies are composed of all the members in each Councilor District. Thus the eighth District Medical Society is composed of the members of Midland, Saginaw, Tuscola, Isabella, Gratiot and Clare Branches. It was organized Dec. 6, 1904, at Saginaw, under the direction of Councilor S. J. Small. Excellent papers—crisp discussions—a toothsome banquet—with bright after-dinner speeches made the many hours far too brief.

The District Societies aim to promote a closer bond between the members of the District—a bond of social, intellectual and professional fellowship—so that outsiders may desire a membership therein. Thus a meeting midway between two meetings of the State Society of several branches, at a minimum of expense and trouble promotes enthusiasm, and augments the power of organization.

October, 1903, the Fifth Councilor District Medical Association was organized at Grand Rapids under the direction of Councilor Welsh—a large attendance and great enthusiasm characterized the reading of papers, discussions and the evening banquet.

Early in the fall of 1904 the Upper Peninsular Medical Society changed from an independent Society to the Tenth District Medical Society. Its meetings are enthusiastic, wide awake, and helpful.

On Nov. 15th, 1904, the Ninth District Medical Society was organized at Traverse City, under the guidance of Councilor McMullen, assisted by Councilor Dodge. Seventy-five members were present at the banquet, which closed a most profitable day spent in listening and discussing papers, clinical reports, etc.

On December 8th the Eleventh Councilor District Society was organized at Muskegon, under the guidance of Councilor Dodge. The day was spent in the reading and discussion of papers, in a clinic, and an inspection of the new Hackley Hospital, all ending with a delightful banquet. At this meeting the President and Secretary of the State Society, and Chairman of the Council were present, aiding in the success of the occasion.

On February 20th was organized the First Councilor District, under the guidance of Councilor Leartus Connor. The

sessions began at 9:30 A. M. and lasted during the day and evening. About one hundred and fifty, exclusive of Councilors Willson and Haughey, were present at the banquet, in spite of the disagreeable weather. Able papers, excellent discussions, and an enjoyable banquet, were features of the occasion.

In general the organization of these District Societies is the simplest possible. After selecting the next place of meeting, the President and Secretary of that Branch become officers for the coming year. As aids are the Secretaries of the several Branch societies—all together form the executive committee, with full authority to make all arrangements for the next meeting programme, expenses, etc. Most Districts have one or more places best suited for holding the meetings, and these are selected with regard to convenience of access by all doctors in the District.

Great credit is due the committee having charge of arranging for these meetings, as they work along new lines, on a new proposition.

On May 11th the Sixth Councilor District will meet at Durand, under the guidance of Councilor Burr. A most interesting programme has been provided, and its attractions will bring a full attendance. Other Districts will form like societies at the fitting date.

Thus far experience shows that these District Societies can add a new and important factor to the success of organization. A meeting without election of officers, without any business except intellectual, professional and social fellowship, at a place convenient of access, all details arranged by existing officers, stripped of rivalry, jealousy, breathing a

spirit of mutual helpfulness, must enlist the support of all.

This movement shows that while in the past doctors have been stragglers on the world's battle fields, they are now forming into companies, regiments and armies, in position to fight their foes and defend their friends. In the past they have limited their studies to individual interests; now they are beginning to study their interests as societies, County, District, State and National.

DR. OSLER'S JOKE—LIMITS OF HUMAN USEFULNESS.

In his parting address to the Johns Hopkins Medical School, Dr. Osler perpetrated a joke, which at once gave him the entire world as an audience. The newspapers made him say that being useless at the age of sixty, chloroforming was the proper ending of the individual.

What he did say was that the teacher was to be a student till twenty-five; an investigator till forty; a teacher till sixty, and then retire upon a pension. Incidentally he introduced a suggestion of Anthony Trollope on chloroforming the aged.

This latter caught the popular ear and set the people talking about being "Oslerized," viz., "chloroformed" at sixty. As those who live long enough reach sixty (and all hope to do so), have a personal interest in their "taking off," something was "put up" to them for discussion. The discussion took on every possible form, written, pictorial, songs, prose and poetry, and the impression made was profound—doubtful if the living ever forget it, because of the well known abilities of Dr. Osler, his profound knowledge,

his past position as teacher, writer, organizer, practitioner, and of the future position to which he has been elected at Oxford, England. The words of such a personality sink very deep into the hearts of all who know of him.

His correction of the newspaper report will fail to correct the first impression, though many will learn what he actually did say. Even these will not all agree that any age limit can be fixed for the race; they find individuals very useful long ere twenty-five and long after sixty; they recognize helpfulness to the world, from childhood to the natural grave in lives who make the most of their abilities and opportunities; they have derived assistance from both the baby and the gray-haired man and know that if either were blotted from the world all would suffer loss.

The fact is, every age has its peculiar weaknesses and power, both are essential to the best evolution of the race; we may hope to diminish the one and increase the other so as to augment the total of good and diminish the ill; but we may not pass beyond the point at which the helpfulness of the babe or the octogenarian will not increase the power of the man in the height of his physical and mental power—in short there is no known limit of human usefulness to be fixed by arbitrary limit—from cradle to grave.

ARE YOU ELIGIBLE FOR RECORD IN THE NEW MEDICAL DIRECTORY IN THE U. S.?

A Directory of physicians in the United States, each of whom has been passed upon by his peers, and taken into

their fellowship, has never been published. In fact previous to this it has never been possible, because there was no means of sorting physicians. Hence laymen have collected the entire mass, and the reader had to assort as best he could.

In a country large as the United States, the number of deaths, removals, and ceasing of active practice, is simply stupendous, as he has observed who sought to communicate with any considerable number of doctors.

Accurate information of all physicians in the United States is needed for the successful prosecution of many kinds of work. Insurance companies need it for the selection of their medical examiners; all who deal with physicians need it; each physician needs it, that he may select proper persons to care for patients who remove to distant places and seek a reliable family physician or specialist.

The *Journal of the American Medical Association* proposes to supply this need, and issue a reliable directory at an early date. This will be based on the records of the state societies and their component parts. Only those will appear who have paid their dues in advance and are otherwise in good standing. The college year of graduation, and date of license to practice will be given.

The names of the State and County Societies will be listed, with places and dates of meetings, names and addresses of officers, etc.; medical laws of each State; names of members of board of health; names of the licensing boards; names of the officers of the medical departments of the army, navy, and marine hospital service; names of examining surgeons appointed by the Commissioner of Pensions; names of national and state and

local charitable institutions, with their officers; and such additional information important to physicians.

It is estimated that this Directory will contain about fifty thousand names—necessarily the cream of the profession. To members of State Societies and their components the price will be nominal—to all others a small profit will be charged. If desired, separate directories will be issued for separate states.

It now remains for each to make this more valuable, by first making sure that his own dues are paid in advance for the current year; and second, by laying the matter before his friends, that they may join the County and State Society, and have their names enrolled. Thus an additional reason is offered for those outside organization, to step in—get in lest you be left.

A CURE ON NEWSPAPER ADVERTISING.

Many methods have been adopted to limit newspaper advertising by physicians—but the practice continues. Some months since the Orleans County Medical Society, adopted the method of imposing on the Secretary of each society the duty of pasting in a scrap book each month all notices of the wonderful deeds of doctors appearing in the secular papers of the district, and placing the book on the President's desk at each meeting for the inspection of all. The privilege was given the members whose name appeared the chance to attach his explanation of the fact.

Since the Fort Wayne Medical Society (Ind.), has adopted the same idea, while it is too late to be sure of results, there is every reason to believe that it must produce good.

The scrap book is to be indexed for easy reference that each may know the frequency with which he has appeared in the newspapers to the discredit of his fellow physicians.

For the convenience of those societies desiring to adopt this idea the following resolutions adopted by the Fort Wayne Academy of Medicine are quoted from *Jour. A. M. A.*: “Resolved, That copies of all articles appearing in the daily press of this city relating to regular physicians of this city shall be placed in a scrap book that shall be kept on the secretary's desk for the inspection of members.

“All articles appearing between meetings of this society shall be read at each meeting, and any member whose name shall appear therein will have the privilege of attaching thereto a written explanation. The book shall be indexed.”

A FOURTEENTH CENTURY PICTURE OF A DOCTOR.

Often the character, ideas and work of old time doctors is spoken of with derision, because the speaker is ignorant of his topic; it may fairly be said that in every age the medical profession applied, with varying skill, the scientific knowledge of its time, more than this it were vain to expect. Throughout all ages, we have records of doctors characters and ideals of the highest. The “up-to-date” doctor of to-day could get many helpful “pointers” from these.

. Thus in 1363, Dr. Guy de Chauliac, says: “Let the surgeon be well educated, skilful, ready and courteous. Let him be bold in those things which are safe, fearful in those things that are dangerous; avoiding all evil methods and practices.

Let him be tender with the sick, honorable to men of his profession, wise in his predictions, chaste, sober, pitiful, merciful; not covetous or extortionate, but rather let him take his wages in moderation, according to his work, and the wealth of his patient, and the issue of the disease and his own worth."

There, would be no complaint if all modern doctors realized this ideal—organization would have no difficulties—the people would follow wherever the profession lead.

While he speaks of the surgeon, the ideal is equally fitting to physicians or specialists—the fourteenth century model represents the best for all time.

Right motives, right conscience, and right character, are fundamentals in every doctor, and might be stimulated by a knowledge of the medical heroes of the by-gone centuries. Our thinking and our facts, are part of a stream flowing through us, but starting in the activities of these heroes ages long past.

THE FORTIETH ANNUAL MEETING OF THE MICHIGAN STATE MEDICAL SOCIETY.

The next annual meeting of the State Medical Society will be held at Petoskey the last three days of next month, June 28th, 29th and 30th. At this time Petoskey will be at its best. The season will be sufficiently advanced to assure good weather, but it will be before the advent of the regular patrons, so that hotel room will be ample to accommodate all. Mr. Peck of the Arlington (head-quarters), a practical hotel man of large experience, thoroughly conversant with

the needs of his guests, will spare no pains for their pleasure and comfort. There will be music in abundance and the committee on arrangements have provided unique forms of entertainment. There will be side excursions to the many points of interest along the shores of Lake Michigan and to Mackinac and other islands.

The scientific part promises to be of unusual interest. Men of prominence throughout the State and from neighboring States will address the general meetings and the sections. All meetings will be held under one roof. A general invitation will be extended to all members of the regular profession.

The summer time table will be in force and there will be ample railroad accommodations. A rate of one fare and a third for the round trip has been secured on all roads.

It is earnestly hoped and confidently expected that every member will feel it incumbent upon himself for his own enjoyment and for the welfare of his County and State Societies to attend the meeting. Those in charge will spare no effort to make it a success, and there is no doubt that one of the greatest, if not the greatest, incentive to good work by all concerned is a well attended and enthusiastic gathering.

Go then to the meeting and take your family with you. Give yourself and your family an outing. There will be plenty of room, plenty of fresh air, good accommodations, excellent cuisine, good music, good fishing, and entertainment for all.

Go, one and all, as well for your own sake as the welfare of your profession.

A. P. B.

County Society News.

ALLEGAN COUNTY.

The annual meeting of the Allegan County Medical Society was held at Allegan, January 27, 1905. The following resolutions were adopted:

Resolved, That the Allegan County Medical Society favor a legislative bill authorizing the registration of graduate nurses, but such bill shall in nowise conflict with nursing, either gratuitously or for pay, of any undergraduate nurses.

The following resolution was also presented, and, upon motion and vote, adopted:

Resolved, That the Allegan County Medical Society request of the members of the State Legislature from this locality that they vote for an appropriation for a state hospital for the treatment of consumptives, on condition that such hospital be placed under the management and control of the medical department of the University of Michigan.

It was further resolved that a copy of the foregoing resolution be sent to our senator and to both members of the legislature, and also that a copy be furnished to the dean of the medical department of the University of Michigan.

It was also resolved that a copy of the resolution relating to the registration of graduate nurses be sent to the senator and representatives as above.

The following officers were elected for the ensuing year:

President—W. E. Rowe, Allegan.

Vice-President—A. L. Van Horn, Otsego.

Secretary-Treasurer—O. F. Burroughs, Plainwell.

Delegate—A. L. Van Horn, Otsego.

Alternate—O. F. Burroughs, Plainwell.

Board of Censors—M. Chase, Otsego, and C. A. Bartholomew, of Marten.

O. F. BURROUGHS, Sec'y.

INGHAM COUNTY.

The Ingham County Medical Society held its regular meeting March 9, 1905. O. S. Bailey read a paper on "Ergot and Chloroform: Its Use and Abuse."

Abstract:

It is difficult to select two articles of materia medica more generally used by practitioners than the above. They enter into the armamentarium alike of the physician, surgeon and specialist, consequently these drugs are of paramount importance and interest to our profession in gen-

eral. Eighteen hundred and forty-seven marks the dividing line between the pre-chloroform and the chloroform age, although chloroform was discovered in 1831 simultaneously by Guthrie, of United States; Saubierass, of France, and Liebig, of Germany. We owe its name to the eminent physician-poet, Oliver Wendell Holmes. Its introduction to the profession was made by Jas. Y. Simpson, November 15th, 1847. Upon November 10th he entered into an agreement to administer chloroform to a patient for an operation at the Royal Infirmary at Edinburg on November 13, but Simpson was unable to keep his appointment and the operation proceeded as of yore, without anæsthetic, and the patient died on the table. However, upon the 15th he administered chloroform at the infirmary with utmost success, and from that time chloroform took its place at the head of the list of anæsthetics.

You are all conversant with its uses. Yet it may not be improper to mention a few of the minor points as to its use and effect: chloroform easily decomposes when exposed to the air and heat, especially when combined with alcohol, forming carbonyl chloride, which is supposed to cause the "after sickness," which is avoided by filtering lime water through the cone while administering the anæsthetic; a partially filled bottle of chloroform exposed to the light will readily decompose; chloroform and open gas light combine to form a dangerous and obnoxious gas. In 1898 during an urgent operation by gas light in the London Hospital two surgeons and several nurses were overcome and rendered very sick, one nurse succumbing to the deadly gas.

The alarming symptoms of an excess of the anæsthetic are many, but the more urgent ones are *syncope* and *choking*, and with either of these a myriad of other objective symptoms occur. Syncope is said to be caused by paralysis of the splanchnic vaso constrictor nerves of the abdomen, and combined with the weakened heart and often the force of gravity when patient is in a semi-recumbent position, the blood rapidly flows into the large veins of the abdomen, causing bleeding of patient into his own blood vessels as effectually as if a vein was opened. To prevent this condition a bandage and compress to abdomen can be applied; also application of cold water or ice bag to abdomen, and most essential of all, maintain a recumbent position. The *choking* is due to paralysis of glasso-laryngeal nerves and fall of epiglottis over the laryngeal opening, impeding the ingress of air to lung cells; treated by extending the lower jaw forward by pressing at angle of jaw and extending the head upon chest and rythmical traction of tongue.

Those who administer chloroform as an anæsthetic regard the conditions of the pupil of the eye as an indication of the condition of the patient, viz.: If the pupil is contracted and eyeball movable all is well, but if pupil dilates with stationary eyeballs, something is wrong; when choking occurs the lungs are too much saturated with chloroform and oxygen should be permitted to enter lungs; the dilated pupil and stationary eyeball are due to paralysis of third nerve, or *motor-oculi*. Death may follow by cessation of heart's action, or stoppage of respiration, or by both of above conditions at once.

Danger to patient is increased by administering chloroform in a damp atmosphere, causing delayed condensation of chloroform in the air cells, and thus prolongs the stage of narcotism. Syncope attacks under this state of affairs will more rapidly prove fatal. High temperature (60° to 70°) and dry atmosphere favor and hasten anæsthesia and recovery therefrom when desired. Contraindications to administration of chloroform are many. Infancy and old age, extreme fear of anæsthesia, valvular disease of heart, albuminuria, etc., are a few of them. Inflammation of kidney in a subject renders him very vulnerable to the fatal effects of the anæsthetic.

Valvular disease of heart may not be a bar to administering chloroform as an anæsthetic unless the trouble be obstructive. Even then the compensative hypertrophy may avert danger from excessive blood pressure. In all cases the heart should be rhythmical in action. There are operations where it is unnecessary and positively dangerous to administer chloroform. I refer to dental operations and operations upon the eye in a great majority of cases. The recent introduction of local anæsthetics, cocaine, eucaïne, holocaine, render it very imprudent to subject the patient to the dangers of chloroform. The upright or partially upright position obtained in these operations are prone, in connection with chloroform, to cause fatal syncope, as indicated previously in this paper. I believe it to be the province of a medical society to discourage the practice of administering chloroform in above-named cases. *Archives of Otolaryngology*, December 8, 1894, emphatically discourages the practice. Chloroform usually given with impunity during childbirth, can, however, be pressed too far even in these cases. To prepare patient for chloroform a spray to nostrils of solution of cocaine (10%) and administration of chloroform renders the stage of anæsthesia easily obtained and much safer to subject. In closing I will say that those

who have witnessed the horrible visions of a patient under collapse from chloroform poisoning, compared with which the collapse of a serious accident or a dead faint are but shadows, will exert every effort to prevent such dire results.

Ergot is one of the greatest aids to physician, surgeon and obstetrician. Its action is on unstriated muscular fibres, and has contractile effect upon spinal blood vessels; a powerful vasomotor stimulant. Dose should be cautiously exhibited; if too large it may paralyze the heart. It excites peristalsis of intestines and secretion of urine. Its action is rapid, beginning 15 minutes after dose, and at its height in 30 minutes, and exhausted in one hour, and demands repetition for continued effect. Poisoning by ergot is frequent. It is claimed that "smut rye," or fungus rye, often enters into the cereal foods. The method of preparation prevent its detection if true cereal foods are not the health-producing agents they are thought to be. In closing this subject I cannot refrain from mentioning the beneficial action of ergot, combined with sodium bromide, upon *diabetes saccharimous*, reducing the sugar, decreasing excessive urination, and giving beneficial results that are pleasing.

L. ANNA BALLARD, Sec'y.

KALAMAZOO COUNTY.

The Kalamazoo County Medical Society passed the following resolutions at its last meeting:

WHEREAS, The present law allows three years from date of service in which to begin suit for malpractice against a physician and surgeon, and inasmuch as most charges of malpractice are instigated for purposes of blackmail, or an attempt to evade the payment of a just bill;

WHEREAS, Much evidence and information may be lost on account of the lapse of time;

WHEREAS, One year is sufficient time to develop all the results of professional incapacity or carelessness;

Resolved, That the Kalamazoo County Medical Society, now in session, most heartily endorse the bill now pending before the legislature limiting the time in which action may be commenced to one year from date of cause for such action.

Resolved, That a copy of these resolutions be sent to our representatives and senator, with a request that they use all honorable means to secure its passage.

O. H. CLARK, Sec'y.

LENAWEE COUNTY.

The Lenawee County Medical Society held its regular meeting March 14, 1905. The society endorsed the movement for a tuberculosis sanatorium.

E. T. MORDEN, Treas.

OAKLAND COUNTY.

The regular meeting of the Oakland County Medical Society was held in Pontiac, March 14, 1905. The society passed resolutions favoring the proposed legislation to create a state sanatorium for the treatment of tuberculosis in its early stage and other resolutions calling for legislation to shorten the time to one year during which suits for malpractice must be brought. A biographical sketch was read of Dr. J. P. Wilson, retired, of Pontiac, and Dr. Wilson was made an honorary member by unanimous vote.

M. A. GRAY, Sec'y.

O. M. C. O. R. O. COUNTY.

At the meeting of the O. M. C. O. R. O. Medical Society, held at West Branch, March 15th, 1905, Frederick W. Robbins, of Detroit, read a paper on "The Diagnosis and Treatment of Certain Diseases of the Kidneys, Bladder and Prostate Gland."

Abstract:

He first stated that most of these diseases are at some time in their natural course medical and at another surgical in character. The art of diagnosis must be still further improved that at the earliest possible moment cases may be removed from the doubtful class and positively classified as surgical or medical.

After speaking of the information obtained by palpation he considered the symptomatology of surgical kidney disease and examination of the urine obtained from each kidney separately by segregation or urethral catheterization.

While dwelling upon foreign bodies in and pathological conditions of the bladder, including neoplasms, it was with considerable feeling that he advocated cystoscopic examination whenever for a considerable time and from unknown cause pus is found in the urine.

He feels that by such means alone can we discover a neoplasm sufficiently early to give any hope of cure by removal, and unless removed most so-called benign papillomata degenerate into carcinomata. If this happens operation will nearly always be a palliative, not a curative measure.

Then after exhibiting several interesting pathological specimens he reviewed the various forms of prostate hypertrophy and the treatment palliative or operative indicated in each, and closed as follows: "Thus I have attempted to show that in any case where pus is continuously in the urine and inflammation of the lower urinary tract be excluded there is in all probability some serious trouble present; that cystitis is usually secondary to some other lesion, that such lesion must be searched for and discovered. If tubercular, operation may be of great benefit, if papillomata of bladder the only hope of prolonging life is early operation, if calculous formation in kidney or bladder operation will cure, if prostate hypertrophy prostatectomy may cure or palliative measures much improve."

C. C. CURNALIA, Sec'y.

SHIAWASSEE COUNTY.

The Shiawassee County Medical Society met March 7, 1905. James A. Rowley read a paper entitled "Osteosarcoma of Tibia."

Abstract:

A sarcoma is a tumor composed of embryonic tissues of mesoblastic origin, always malignant, but often varying in degree of malignancy. Structurally sarcomata are formed of spindle, round, or giant cells imbedded in an intercellular meshwork. These tumors are very vascular, their blood supply depending on capillaries, which consist of one layer of endothelial cells or often the walls are entirely absent, the blood flowing between the cells of the tumor.

The metastasis of sarcomata takes place by the blood vessels, infection of the lymphatics being infrequent. The growth generally penetrates a vein, forming a bud of sarcomatous tissue on its inner surface, which is swept away into the general circulation, giving rise to secondaries in other parts of the body. Such an embolus must pass through the minute capillaries of the lungs before again entering the general circulation, and this accounts for the relative frequency of secondaries in that organ. Yet in many cases they escape entirely, while other organs do not.

Sarcomata may be found in all the organs of the body, the bones, testicles, ovaries, breasts, and uterus. Multiple sarcomata are found in the skin in form of numerous small growths, and may give rise to internal secondary deposits.

The clinical history and appearance of sarcomata varies greatly. They occur at all ages, but are more common from puberty to the thirtieth year. Generally speaking, the growth is very

rapid and painful. Ulceration does not occur until late, if at all, and is unlike that of carcinomata, in which the skin actually becomes involved in the growth and then breaks down. In sarcomata of the internal organs a rise of temperature resembling pyemia, tuberculosis or typhoid fever often takes place.

The course of a sarcoma depends largely upon its structure. Thus the round-celled variety are more malignant than the spindle-celled, and both of these more so than the giant-celled. Some tumors run a course of great rapidity, the growths spreading through the tissues almost as rapidly as a purulent infiltration, and secondary tumors appearing at once in distant organs. Others grow more slowly, give absolutely no symptoms, and sometimes remain stationary in size for years, until some blow or unknown cause brings out their malignant character.

Sarcoma of bone or osteosarcoma occurs in both flat and long bones, and may develop centrally or in the periosteum. It may be round, spindle, giant, or mixed-celled. Central tumors are generally symmetrical and form pulsating tumors, owing to their vascularity, while periosteal tumors generally grow from one side of the bone, and are therefore asymmetrical. They usually cause great pain, especially if originating centrally, and cachexia, with marked blood changes, may develop early. Fracture of the bone is common in the central variety. Melastasis occurs in all forms, some other bone being frequently involved. Recurrence or death is common in all cases, even after amputation.

Thorough extirpation is the only effective treatment of sarcoma. In sarcomata of the extremities amputation of entire bone and joint above is the only safe procedure. Surgical treatment at present seems to be the only one worth considering where it can be employed. The X-ray may give better results in the future, but as yet offers nothing satisfactory. A number of cases have been recorded in which sarcoma and carcinoma disappeared after attacks of erysipelas, and from this sprang the treatment of inoculating patients with the germs of that disease, but results were uncertain and risks considerable, and at present most authorities condemn the treatment, so at present surgical treatment, when it can be used, is all that we can offer to these unfortunate patients.

Report of Case.—Patient B. G. Boy, age 16, American, weight 126. Previous history good. Had diseases of childhood. Family history, father living, health good; mother died in asylum for insane; two sisters, both healthy; no history of hereditary diseases in family. Present

trouble began in spring of 1903, about four months before Dr. Fair and myself saw the patient. Patient first felt a dull, aching pain in right leg, midway between knee and ankle; described it as leg-ache, and thought it due to his work, as he was employed at plowing and harrowing. Several weeks later noticed that leg was swelling in region of the pain. This swelling gradually increased and pain grew more severe, but boy continued to work, and after trying home remedies consulted a doctor, who poulticed limb and afterward lanced swelling, obtaining no pus, but a free venous hemorrhage. Patient first called at our office July 5, 1903, complaining of pain and swelling of the right leg. He appeared pale and emaciated; much loss of sleep. Temperature 100°, pulse 90. Inspection showed asymmetrical enlargement on anterior surface of right leg four inches below patella. On palpation tumor was smooth, of varying consistency, non-fluctuating, not painful on pressure, much local heat. Integument over tumor free, adherent to tibia, no enlargement of glands of popliteal space or groins. Examination of abdomen and chest negative. History as to cause indefinite; patient remembered of receiving blow across legs several months before present trouble, but considered it trivial, as he was only slightly lame for a few days.

An exploratory operation was made on July 10th. Dr. Fair made incision four inches long, beginning two inches below patella and extending downward over crest of tibia through median line of tumor. We found periosteum stripped from tibia and bone necrotic as far as incision extended. The tissues forming enlargement consisted of a very vascular growth infiltrated with bone cells, and microscopically seemed to be a hypertrophy of periosteum and muscles overlying. The shaft of the tibia was curetted, leaving large cavity, which was irrigated with bichloride solution and packed with sterile gauze and wound closed with sterile adhesive strips. Character of growth made amputation imperative as soon as patient was in condition.

Microscopical examination of section of tumor showed it to be a mixed-cell sarcoma with spindles and giant cells predominating, and apparently originating from periosteum of tibia. Patient suffered very little shock from the operation, but lost considerable blood. Patient placed on iron in increasing doses, strychnine nitrate grain 1-40 three times daily and generous diet. Wound was irrigated and repacked every second day. On July 28 we amputated at junction of middle and lower third of femur. Patient stood amputation well and made uneventful re-

covery, and was discharged August 26. At that time examination of chest, abdomen and lymphatics negative.

On December 14, 1903, or 136 days after amputation, we were called to see this patient again and found him complaining of pain in left knee, which he thought was due to fall received a few days before while entering passenger coach. Knee was slightly swollen and inflamed. Knee was treated for sprain, with no relief whatsoever. Continued to increase until it reached three times normal size, and appeared as a symmetrical tumor of same macroscopical characteristics as that involving amputated leg. Three weeks after knee began to enlarge circumscribed swelling appeared at each wrist. These did not increase with the same rapidity as that of knee joint, but caused patient considerable pain. Palpation of abdomen at this time showed enlargement of liver, with many nodules along lower border. Patient lost rapidly in weight, suffered severe pain, developed septic temperature; rapid, irregular pulse; delirium; enlargement of inguinal glands; no ulceration of tumors. Patient died during May, 1904. No autopsy could be obtained.

P. S. WILLSON, Sec'y.

Medical News.

The Chicago Medical Society contemplates organizing a business bureau for the transaction of business. The reasons for advocating the measure are as follows: (1) To do collections at a moderate charge as possible, which could be done if all the members in good standing patronize the bureau; smallness of the percentage charge would be an inducement to put bills in the bureau earlier for collection than is now done with independent agencies. (2) To probate bills at the least possible cost. (3) In case of sickness or death of the members of the profession the bureau would make up his books, collect and bank the money, thereby giving great aid to the family; this same may be said of men desiring to go on much-needed vacations for recuperation or for scientific advancement. (4) The bureau generally would for a comparatively small charge, transact any business whatever pertaining to its members in good standing. (5) The society would have at its disposal an office that will be able to do much other work, as the tabulation of midwives, the investigation of the unprofessional conducting many institutions, the compilation of an official directory and many other things for the best interests of the profession.

At the last regular meeting of the Oakland County Medical Society Dr. John P. Wilson, of Pontiac, was made an honorary member. The following brief biographical sketch was presented and ordered made a part of the permanent records of the society.

Dr. John P. Wilson, the son of Dr. William Wilson, was born in Scotland, in 1828, and came to this country in 1844. He was graduated in medicine from the College of Physicians and Surgeons of New York City in 1851. After completing his medical studies he practiced with his father until 1856, when he came to Pontiac and formed a partnership with Dr. I. Paddock. In 1859 Dr. Wilson started a drug store at No. 7 North Saginaw street, which under different proprietors has continued till the present.

When the Fifth Michigan Cavalry was formed during the civil war Dr. J. P. Wilson was commissioned regimental surgeon by the governor of the State, serving in this capacity until March, 1863, when, on the formation of the Michigan Cavalry Brigade, under General Custer, he was made brigade surgeon. Assuming the duties of this rank, he organized the Brigade Hospital at Fairfax Court House, Virginia, where for three months he personally cared for a large number of sick and wounded soldiers. He was with the Army of the Potomac at the battle of Gettysburg, but soon after was stricken with typhoid fever and for many weeks was seriously ill near this historic battlefield. He was subsequently removed to Annapolis Hospital for medical treatment, where he was honorably discharged in October, 1863, with his health seriously and permanently impaired. Dr. Wilson knew whereof he spoke when he penned these words: "If the wrecks of that awful war could be summed up, there would be presented a powerful argument for peace among the nations."

For five years after his discharge from the army, Dr. Wilson endeavored to recuperate his health; he then resumed the practice of his profession in Pontiac, but physical infirmities contracted during his military career, together with increasing deafness, made it necessary for him to give up all active business in 1880 while yet in his prime, and when he, but for those infirmities, was prepared to do the best work of his life.

As a physician and surgeon Dr. Wilson was skilful and successful. He served his country well as military surgeon; he has since served his state as a member of the Board of Trustees of the Eastern Michigan Asylum; and he has served his city in various ways. For many years (18) he was a member of the Board of Education, he organized the first Board of Health

in the city of Pontiac and he is at present a member of the Board of Control of Cemeteries, having been a member of that body since its creation by a special act of the Legislature in 1885. Dr. Wilson is and for long has been an important factor in this community. His services to his country, state and city are duly appreciated, but beyond these he is respected by all for the genuineness and uprightness of his character.

Dr. O. L. Ricker, of Cadillac, Mich., class of 1904, Detroit College of Medicine, member of the Phi Beta Pi fraternity, secretary-treasurer of the Tri-County Medical Society, and member of the State Medical Society, was married at Cadillac on March 21, 1905, to Miss Nellie B. Shupe, of Fostoria, Ohio, daughter of Mr. and Mrs. J. P. Shupe, of Fostoria. Dr. and Mrs. Ricker will be at home at 617 Cherry street, Cadillac, Mich.

A memorial tablet for the late Dr. N. S. Davis was presented by the senior class of the Northwestern University Medical School, March 24, in Dean Hall. The tablet bears the inscription: "Good and great, he maketh the earth wholesome."

Dr. C. A. L. Reed's publication of his report to the War Department on sanitary matters at Panama, in the *Journal of the American Medical Association* seems to have been displeasing to the Government. It would have preferred to receive his report and publish it when and where it desired. The old Panama Commission has been discharged, but we do not observe any doctor in the new one, yet the canal can never be dug with either dead or sick men. A wise doctor with abundant authority is alone able to ensure the smallest death rate and most vigorous health, and so the most economical prosecution of the work. The American Government, including President Roosevelt, as yet fails to make the best use of the doctor. In Japan they seem to do things better. In both the army and navy of the United States the doctor lacks the power to adequately provide for the greatest efficiency of the soldiers—vide the Cuban war, or any other American war.

Lewellyn S. Barker, professor of medicine at Chicago University, has been chosen to take the chair of medicine at Johns Hopkins Medical School, made vacant by the resignation of William Osler. Dr. Barker received his education and medical degree at Toronto University. He was associate professor of anatomy and later associate professor of pathology at Johns Hopkins Medical School. He left there to become professor of Anatomy at Chicago University. Recently

he was appointed professor of medicine at that institute. His training has been very much along the line that prepared Dr. Osler for his life work. As a writer he is well known. Among the works of his pen are "Diseases of the Nervous System," "Manual of Anatomy," etc.

William S. Thayer has been appointed professor of clinical medicine at Johns Hopkins Medical School.

The Henderson County, Ky., Medical Society determined recently to present the name of Dr. Ephraim McDowell for one of the statues in the National Hall of Fame.

Dr. Henry H. Kane and his assistant, William H. Hale, having confessed to obtaining \$10,000 from a Mount Vernon carpenter by an alleged radium cure in which there was no radium, were sentenced to serve four and eight months in the penitentiary. As restitution had been made to the victim, the court showed clemency in imposing the sentence.

In the suit of John M. Casey, of Stillmore, against Drs. Leonidas P. Lane, of Stillmore, and G. L. Smith, of Swainsboro, in which he claimed \$20,000 damage for the alleged negligence, incompetence and lack of skill of these physicians in treating compound, communicated fracture of both legs, the jury found for the defendants.

"Dr." Frederick L. Orsinger on March 24, was fined \$200 for practicing medicine without a license. The prosecution was undertaken by the State Board of Health.

The legislature of the State of Pennsylvania passed a bill March 21, providing that it shall be compulsory for institutions in the state which are interested exclusively with the care of idiots and imbecile children, to appoint on their staffs at least one neurologist and one surgeon, whose duty it shall be to examine the mental and physical condition of the inmates. If in their judgment they deem it advisable, it shall be lawful for the surgeon to perform such operations as are safest and most efficacious to prevent procreation. The operation shall not be performed except in cases that have been pronounced non-improvable after one year's residence in the institution. The Governor vetoed this bill.

Ground was broken for the new Manhattan Eye and Ear Hospital on East Sixty-fourth Street on March 23. The new building will extend through Sixty-third Street and is located between Second and Third Avenues. The ground for the new building cost \$125,000, and the

estimated expense of the new building, completely equipped, is \$600,000. Sixty rooms for private patients and ward room for 150 patients will be provided, besides quarters for the large out-patient service. The present location is at Forty-first Street and Park Avenue.

The Journal of Experimental Medicine will be published under the auspices of the Rockefeller Institute for Medical Research, New York, and edited by Drs. Simon Flexner and Eugene L. Opie.

The bill to establish a national sanatorium for lepers failed to pass Congress.

New York hopes to abolish its antiquated coroner system this year. How much longer must Detroit stagger under its incubus?

The average admission of patients to Bellevue Hospital is ninety per day this year.

Mt. Sinai Hospital, New York, has an association membership each paying annually from ten dollars up—in the aggregate \$120,000 last year.

For the week ending March 25th there were eight-five deaths from cerebro-spinal meningitis in New York City.

On Feb. 20th died the oldest inhabitant of New York City, aged one hundred and eight. His wife died twelve years ago, aged ninety-eight. The first fifty years of his life was spent in Ireland. His name was Joseph McGrath.

Dr. Russell Murdock died in Johns Hopkins Hospital, March 18th, aged sixty-six, from apoplexy. His eye speculum is well known to ophthalmologists. He was a founder of the Baltimore Eye and Ear Hospital.

Dr. W. H. Park, of the New York City Health Board, found that the inoculation of a clean paper dollar with diphtheria bacilli was followed by their recovery at the end of a month. From pennies, dimes, and nickels placed in the mouths of diphtheria patients no bacilli could be obtained twenty-four hours afterwards. In the paper money death by bacilli was by drying; in metallic by poison generated by moisture on the coin. From money taken at a cheap jewelry store, dirty pennies averaged 26 living bacteria apiece; dimes, 40; moderately clean bills, 1,250, and dirty bills, 73,000. The obvious conclusion is that soiled paper money should be withdrawn from circulation as soon as possible.

The Scientific Exhibit at the Annual Meeting at Petoskey.

A. S. WARTHIN, M. D., Chairman, Ann Arbor.

P. M. HICKEY, M. D., Detroit.

D. M. COWIE, M. D., Secretary, Ann Arbor.

An unusual effort will be made this year to make the *Scientific Exhibit* at the annual meeting of the Michigan State Medical Society especially attractive and instructive. It is proposed to confine the exhibit entirely to diseases of the "Gastro-intestinal Tract." There will be sections on Diagnosis, Pathology, Treatment (medical and surgical), etc.

Dr. Cowie is at work on the questions in relation to diagnosis and will present a collection of casts and illustrations of stomach-analysis, etc. Dr. Hickey will give an exhibit of the application of the X-rays to the diagnosis of diseases of this tract. Dr. Darling has promised to illustrate some surgical methods, and other prominent surgeons will be asked to do the same. Dr. Warthin will furnish a representative set of pathological specimens and it is proposed to ask prominent drug houses to furnish under proper regulations cabinets of the crude and finished drugs used in the treatment of diseased conditions of the alimentary tract.

Should the contributions meet the expectations of the committee, an evening will be devoted to the presentation of the subject.

It is earnestly hoped that contributions will be offered by the members of the Society. Those offering will please *communicate at once with Dr. A. S. Warthin*, Pathological Laboratory, University of Michigan, Ann Arbor, Michigan.

The regular meeting of the State Board of Health was held in the Secretary's office, Lansing, April 14, 1905. The members present were: Dr. Victor C. Vaughan, President; Hon. Henry A. Haigh, Charles M. Ranger, Hon. Coleman C. Vaughan, Dr. Angus McLean, Dr. Malcolm C. Sinclair and Dr. Frank W. Shumway, Secretary. Dr. Vaughan urged the advisability of this Board putting forth every possible effort to secure legislation providing for a State sanatorium for consumptives, and in this connection Dr. Vaughan also mentioned the importance of collecting reliable statistics on the geographical and class distribution of the disease which would be of great assistance in ascertaining important facts on the prevalence of consumption. Such statistics would also enable this Board to work intelligently for the restriction of this disease and in securing legislation providing for a State sanatorium. Many of the States have such institutions, notably among those mentioned being Massachusetts, New York, Pennsylvania, Ohio

and New Jersey, while many other States have bills before their State legislatures providing for similar institutions. Dr. Vaughan suggested that a feature of the work of this Board for the next two years be the special study of tuberculosis and to ascertain if the prevalence of this disease in Michigan is increasing or decreasing.

The work of this Board for the restriction and prevention of pneumonia was considered of great importance and should be continued, as deaths from this disease are rapidly increasing, and its cause and means of spread are problems that this Board might properly consider.

Dr. Vaughan also mentioned the important line of work carried on through the distribution of the Teachers' Sanitary Bulletins, and the good results that have been accomplished through this work of the Board.

The Board arranged the details for holding the Annual Conference of Health Officials, June 1-2, at the State Laboratory of Hygiene at Ann Arbor.

The Board decided to hold a meeting to conduct an embalmers' examination following the meeting of the State Funeral Directors' Association in June or July.

Dr. Sinclair, of Grand Rapids, presented resolutions adopted by the local board of health of the city of Grand Rapids in which it was stated that the local board of health had taken proper steps, as advised by the State Board of Health, to abate the conditions leading to the contamination of the water-supply of the City of Grand Rapids. Dr. Sinclair's report was accepted.

This meeting being the annual meeting of the Board, and the time for election of president, Dr. Vaughan, who had been elected as president at the regular meeting of the Board January 20 to fill vacancy caused by the death of Hon. Frank Wells, was unanimously re-elected president of the Board for the ensuing two years. Dr. Vaughan thanked the Board for the honor conferred upon him, after which the Board adjourned.

James J. Hurley, who died in Flint, April 4, 1905, left a bequest of \$25,000 to found a hospital for this city.

The National Medico-Psychological Association, which met during April at San Antonio, Texas, has elected as President, Dr. C. B. Burr, of Flint.

The Sixth Councilor District Medical Society will meet at Durand, May 11, 1905, at 7:30 p. m. A great deal of interest is being taken in the meeting and the committee in charge (P. S. Willson, H. R. Niles, W. H. Gale and R. H. Baird) has received assurances of a good attendance of the members. Many of the state officers and councilors will be present.

It is said that Drs. William H. Welch, William S. Halstead, Howard A. Kelly and William Osler, all of the original faculty of Johns Hopkins Medical School, will meet in London during

June and will then sit for a group portrait, to be painted by John S. Sargent. The idea originated with Miss Mary E. Garrett, of Baltimore, who will bear the expense of the painting. Dr. Osler's departure is the first break in the original faculty of the medical school.

Miscellaneous.

CHANGE IN MEMBERSHIP.

(March 15th to April 15th.)

NEW MEMBERS.

Helen A. Beadle, Sault Ste. Marie, Mich.
C. E. Beeman, Evart, Mich.
A. L. Brannack, Byron, Mich.
A. G. Burwell, Byron Center, Mich.
A. J. Carlson, Trenary, Mich.
J. H. Carters, Gaylord, Mich.
W. J. Conover, Evart, Mich.
J. B. G. Dixon, Bad Axe, Mich.
F. Edmister, Port Huron, Mich.
Mary Green Fiske, Charlotte, Mich.
R. F. Foster, Bear Lake, Mich.
Wm. Hake, Grand Rapids, Mich.
Abram B. Hixon, Grand Ledge, Mich.
W. B. Holdship, Ubly, Mich.
S. E. Hooper, West Branch, Mich.
A. J. Irwin, Port Huron, Mich.
Minta Kemp, Sault Ste. Marie, Mich.
W. T. King, Calumet, Mich.
C. B. McKinzie, Harbor Beach, Mich.
G. P. McNaughton, Sault Ste. Marie, Mich.
Fred Robinson, Sturgis, Mich.
F. D. Smith, Coopersville, Mich.
A. M. Switzer, Grand Rapids, Mich.
C. B. Toms, Big Bay, Mich.
L. H. Tower, Centerville, Mich.
Gertrude Wilcox, St. Louis, Mich.
F. C. Wiley, Pinnebog, Mich.
J. M. Wilkinson, Evart, Mich.

CHANGE OF ADDRESS.

G. H. Bunch, Columbia, S. C.
A. F. Fischer, Hubbell, Mich.
L. Fleckenstein, Vernon, Mich.
E. A. Schilz, Grand Ledge, Mich.

DIED.

H. B. Anderson, Traverse City, Mich.
J. W. Kirtland, Lakeview, Mich.
A. Toal, Peck, Mich.

BOOKS RECEIVED.

MALFORMATIONS OF THE GENITAL ORGANS OF WOMAN. By Prof. Chas. Bebieerre. Translated by J. H. C. Simes, M. D. P. Blakiston's Son & Co., Philadelphia, 1905.

DISEASES OF THE HEART. By E. H. Colbeck, A. B., M. D. W. T. Keener & Co., Chicago, 1905.

THE OPEN AIR TREATMENT OF PULMONARY TUBERCULOSIS. By F. W. Burton-Fanning, M. D. Cantab. W. T. Keener & Co., Chicago, 1905.

A HAND-BOOK OF NURSING. Revised Edition. Published under the direction of the Connecticut Training School for Nurses. J. B. Lippincott Co., Philadelphia and London, 1905.

Correspondence.

EDITOR:

My attention has been directed to a lengthy editorial published in the February number of the *Physician and Surgeon* (Ann Arbor), criticising an address made by me at the meeting of the Eighth District Medical Society, Saginaw, December last, and published in the February number of the *Journal*, under the title of "Criticism of the Reasons for the Regents' Order of Gratuitous Treatment of all Cases at the University, and a Practical Remedy Suggested."

My first impulse upon reading the article was to treat the matter philosophically, and let the article in question pass for its face value without comment, from the fact that further than some unfair and strained comments and deductions relative to myself personally and my treatment of the subject, the material questions involved in my address were discussed from such a narrow and prejudiced standpoint that I hardly thought the editorial in question deserving of recognition or serious consideration at my hands, and I could not see how the subject could be benefited by further discussion, but I have received so many letters from graduates and friends of the University, in which the editorial complained of has been unsparingly criticised, that I feel constrained, therefore, somewhat reluctantly, to treat the matter more seriously than I otherwise should if I solely consulted my personal inclinations in regard to the article.

In my address referred to I called attention, among others, to the following undisputed facts in connection with the question of "Gratuitous medical and surgical aid to all persons applying for same, including those persons who are quite able to pay for such services" at the hospitals controlled by the Board of Regents, and which question at the time of the address was receiving a great deal of consideration and criticism at the hands of the profession of the state:

1. The necessity of the Board of Regents supplying the medical department of the University with clinical material of sufficient quality and quantity, hence the objected order of gratuitous attendance by the faculty.

2. Notwithstanding the order complained of, scarcity of clinical material obtainable at Ann Arbor.

3. Quality of clinical material obtained defective and altogether unsuitable for clinical purposes.

4. In consequence, a large percentage of matriculants transferring to other schools at end of

second year owing to such defect in quantity and quality of clinical material.

5. Standing of medical graduates of the University of Michigan before army, navy and state examining boards unsatisfactory in those subjects in the medical course requiring certain quantity and quality of clinical material.

6. Suggested remedy: Removal of clinical course to Detroit, where an abundance of clinical material could be obtained under most favorable conditions, not the removal of the objected order of gratuitous treatment, which was not objected to or unfavorably criticised in my address.

In criticism of the above facts or statements as outlined under the six divisions, the editorial in the *Physician and Surgeon* admits the truth of the statements under divisions 2 and 3 and states that these statements will also probably be admitted by the University authorities. The remainder of the article is devoted, in as far as my address is concerned, as summarized in the above statements, to the general denial that any considerable number of patients admitted to the hospitals at Ann Arbor are really *wealthy* and to a contradictory statement that *well-to-do* patients form a material part of and make most excellent clinical material at Ann Arbor.

The article in question certainly is the reverse of frank and honest in its general discussion of and its denial of the statement of "Gratuitous medical and surgical aid to all persons applying for same, including those persons who are quite able to pay for such services," in the following language:

"It was shown that most of the patients did pay, but very few of them are really *wealthy*."
* * * "Recently, Superintendent Gilmore said, two hundred patients in succession have been investigated, and the only one who could be called rich was brought in again by a physician, his own son. Such admissions are doubtless irregular in order, and it might happen that investigations at other times would show a larger proportion, but most of the cases would be of the kind just mentioned or else the sons or daughters of well-to-do or rarely wealthy men who were sent in also as emergency cases by their attending physicians." * * * "At various times efforts have been made to get exact figures at the hospital regarding attendance by rich people. Several years ago when resolutions were sent in by certain county medical societies the finances of the patients were investigated, and the only one that could be called rich, a man said to be worth \$80,000, was one who was brought to the hospital as an emergency case by a physician in the county in which the agitation had begun."

It is to be noted that the article devotes considerable time and space in attempting to prove that very few of the cases are wealthy or millionaires, whereas, my statement covered only cases, "who are quite able to pay for such services," for it matters not if these cases are "millionaires," "wealthy," "well-to-do" or are only sufficiently well off to pay for medical services, through themselves or through their relatives or friends. From a material and practical standpoint these cases are wealthy who can, even with self-denial, pay for services rendered, and the article not only begs the question, but also is guilty of mis-quoting me when it discusses the question of free treatments from any other standpoint.

The article again states that he, Dr. Harison, thinks it "a waste of time to discuss the point that patients able to pay for medical services would either make suitable cases for teaching purposes, or that such cases, even if suitable, would submit to the status of a clinical hospital case."

* * * "Here he is wide of the mark, as he could convince himself by a visit to the University Hospital." * * * "He could see that the patients there make most excellent clinical material. He could occasionally see the sons of well-to-do farmers being examined in every detail, percussed, auscultated and demonstrated by and before under-graduates. He could see an ex-member of the state legislature giving daily demonstrations of his smallpox lesions to classes of students, quite as well as a pauper could, et cetera."

The above quotation is rather ingenious in view of the fact that the article devotes very considerable space in the attempt to prove that my statement "Gratuitous medical and surgical aid to all persons applying for same, including those persons who are quite able to pay for such services," is not founded on fact.

Again, the article states:

"Dr. Harison's admission that he knows very little of the details of the question he discusses is surprising, because the work of the University is not done in the dark, and because the Board of Registration is supposed to have authority to investigate medical schools in the most minute degree."

This is an example of several similar criticisms and misinterpretations of my address. In such address I stated that I knew very little of the details of gratuitous medical and surgical aid at the University to those persons who were able to pay for such services. It is not necessary in discussing the question of free treatment that I should know such details, but nothing in the language used by me should convey the impres-

sion that I admitted ignorance of the details of the questions involved in the free treatment of the well-to-do.

Again, I find the statement:

"Dr. Harison also considered what he called the solution of the remedy for the condition he finds, namely: Lack of material. (In passing, it should be said that he is very far from right in intimating that the Regents devised the remedy. The Regents did not, as so freely charged, make a new rule last summer. They simply reaffirmed an old one to answer a definite question." * * * * *).

The above illustrates the admixture of the affirmative and negative so liberally in evidence, and is characteristic of the argument throughout the entire article. The Regents did not, according to the article, devise the remedy, because the order was not made last summer, but was made by them some time previous to last summer. In my address in discussing the Regents' order no statement of a recent order was made. The following language was made use of by me: "became necessary for the Regents to issue the order involving gratuitous medical and surgical aid," et cetera.

I merely call attention to the above irregularities of thought and construction, if I may call them such, not that they are at all material to the proper consideration of the questions involved, but simply to illustrate the prejudice and bent of the writer of the article, and in this connection I might suggest that his advice concerning the proper use of my position in relation to promoting measures for the public good is not appreciated by me to the extent it would otherwise have been, provided his criticism had been consistent with a conscientious effort to discuss my address from the standpoint of fairness to myself and exact justice to the very important subject at issue.

In contradiction to the article in the *Physician and Surgeon*, one of the leading members of the medical faculty of the University writes me:

"Permit me to say that I think I am heartily in accord with your general line of treatment and congratulate you on the temperate manner in which you handle it."

R. B. HARISON.

Sault Ste. Marie, Mich., April 12, 1905.

Editor: I want to express my thorough appreciation of the editorial on "A Doctor May Teach Without a Professorship."

I have not read anything more sane, wise and true in a long time.

Yours sincerely,

DAVID INGLIS.

Detroit, April 1, 1905.

Book Notices.

Under the Charge of

RAY CONNOR.

STUDIES IN GENERAL PHYSIOLOGY. By Prof. Jacques Loeb. 772 pages. 162 illustrations. 2 vol. Cloth, \$7.50 net. The Decimial Publications. Second Series. Vol. XV. The University of Chicago Press, 1905.

These studies are a collection of papers on the subject of general physiology which have appeared from time to time in various places from the pen of Prof. Loeb. A large number originally appeared in German and have been translated by Prof. Martin H. Fischer. Although on widely different subjects, a single idea permeates all, namely, that it is possible to get life-phenomena under our control and that such control is the aim of biology. The so called mechanical explanation of life has been a very fruitful source of inspiration to modern physiologists. As long as all life could be assigned to the action of an unknown and unknowable "vital force," there was little stimulus to the investigation of physiological problems. It is only when a physical basis of life is recognized that intelligent efforts have been made to solve these questions in accordance with known chemical and physical laws. Prof. Loeb has gone farther than most in these studies and his work has been widely exploited through the secular press.

It is with pleasure therefore that we see that the University of Chicago has gathered these important studies together in an English edition easy of access for us all. Perhaps no class of men are more interested in the fundamental questions of physiology than physicians, unless we except biologists. These studies will doubtless find a large and appreciative audience amongst the educated physicians of this country.

There are some thirty-eight chapters in these two volumes, covering a wide range of topics. The physical basis of motion is first considered and heliotropism of animals is compared and identified with that of plants. The author endeavors to account by physical causes such as light, gravity, friction, chemical forces, etc., for the actions of animals which others have taken for the effect of "will" and "instinct." It is perhaps in the studies of regeneration where the most sensational results are obtained. This problem is approached by experiments on heteromorphosis. Prof. Loeb has succeeded in finding an animal, a Tubularian, which could be so altered by artificial means, as to terminate in a head at both its oral and aboral ends. The results

with the eggs of sea urchins have already become well known. Unfertilized eggs immersed in a sol. of $Mg\ Cl_2$ and sea water for two hours segmented and developed into normal plutei. Every precaution was used in these experiments to guard against artificial fertilization. Later investigations show that other chlorides such as $NaCl$ and KCl can be substituted for the $Mg\ Cl_2$.

It is of course impossible to even hint at all the points of interest in these two volumes. Whether the writer's conclusions are entirely acquiesced in or not, the experimental data given is full of great interest in its bearing on far reaching and fundamental questions.

THE OPHTHALMIC YEAR-BOOK. By Edward Jackson, A. M., M. D. 260 pages. 45 illustrations. Cloth, \$3.00. The Herrick Book and Stationery Co., Denver. 1904.

This innovation in the field of ophthalmic publications will be hailed with gratitude by a large number of busy practitioners whose time and resources preclude their consulting all the important original publications as they appear. Dr. Jackson attempts to furnish his readers with two things: First a critical digest of the most important literature of the past year, sufficiently complete to be of service without reference to the original. Second, a list of the more important original communications appearing during the year. That this work has been well done need not be said to those who know the author. The arrangement of the book is simple and practical, rendering it easy to use for reference and saving a vast amount of labor.

The mechanical features of the work are well done. The illustrations while not very numerous are well chosen and help out the text. It is to be devoutly hoped that these publications may receive such a generous support as to ensure their permanence for many years to come.

GARRIGUES' GYNAECOLOGY. By Henry J. Garrigues, M. D. Octavo, 460 pages. 343 illustrations. Cloth, \$3.50. J. B. Lippincott Co., New York. 1905.

Garrigues' Gynaecology, a book of some four hundred and fifty pages, is intended as a short treatise for students and practitioners. It contains the essentials of gynecology and its teaching is, for the most part, rational and up-to-date. As is stated in the preface, "it is calculated to be a guide for beginners" and, as such, it is a success. Minor operations are well described, while

only the main features of the major procedures are given, a wise arrangement for a book covering this field.

Diseases of the bladder and rectum are included. The section on cystoscopy, especially that relating to the Kelly method, is based on Kelly's earliest articles, from which the illustrations are taken. None of the improvements, made in the past ten years, either by the originator or others, are included, nor is the section on electric cystoscopy what one would expect in a nineteen hundred and five publication.

In the section on technic, the author says: "Some operators also use rubber gloves, but they interfere seriously with delicate touch, and many have given them up or never adopted them." This should read, in our opinion, "Many operators also use rubber gloves, although they interfere slightly with delicate touch. A few have given them up or never adopted them," or better, "rubber gloves should be used in every major operation."

There are 343 illustrations, about one-third of which are taken from the author's "Diseases of Women." The cuts are very uneven in quality.

The text is well edited; the paper and binding good. B. R. S.

THE MEDICAL EXAMINATION FOR LIFE INSURANCE, with Chapters on the Insurance of Sub-standard Lives and Accident Insurance, by Charles Lyman Greene, M. D. Second Edition. Revised and Enlarged, with 99 illustrations. \$4.00 net. Philadelphia, P. Blakiston's Sons & Co. 1905.

The rapid strides made by the ever increasing old line insurance companies, especially in this country; the extension of the benefits of insurance to sub-standard lives; the appreciation by the masses of the value of life insurance not only as a protective feature, but as a safe investment; all have rendered the medical examiner an important attribute and his selection the careful study of the medical department of these large life insurance companies. Where appointed the well trained, conscientious, politic physician is certain of a permanent and remunerative practice.

In this volume, the need of which no one appreciates better than the old examiner who has gained his knowledge in the field of daily experience, Dr. Greene details in his clear style the nature and growth of life insurance; defines the medical examiner's qualifications and sets forth his problems and responsibilities; reviews with him and explains in detail the questions usually demanded of the examiner, elucidating especially the physical examination of the different viscera; defines sub-standard yet insurable lives; and devotes a chapter to the increasing importance of accident insurance.

Especially clear are the chapters devoted to the physical examinations of the heart and lungs, which, though avowedly written for the under graduate and the young physician, will be appreciated by the older practitioner.

In every respect the book is well written, full of useful information, of clear type and good illustrations. A. P. B.

THE INTERNATIONAL MEDICAL ANNUAL. A Year-book of Treatment and Practitioner's Index. By thirty-six department editors. 8 vo., about 600 pages. Thirty plates, 54 diagrams. Cloth, \$3.00 net. E. B. Treat & Co., New York. 1905.

This volume marks the beginning of a new series. As the amount of literature has increased with the twenty-three years' life of the annual, new pages have been added and the paper made thinner. This no longer suffices, and it has been found necessary to increase the size of the page in order to retain the proper proportions of the volume. The contributors to this number are chiefly Englishmen, although this country and Germany are also represented. The foreign literature is, however, considered in the reviews as well as that published in the English language. Such names as Professors Ewald, Mayo, Robson and Boardmen Reed are to be found on the list of editors, and guarantee the quality of the reviews and the critical opinions upon the work of the year.

The arrangement of subjects is alphabetical, with cross references where needed. The references to the literature are given at the close of each paragraph. The brevity of the paragraphs is necessarily great where so much has to be considered in so short a space. The stereograms, which are used freely, especially to bring out points on the eye and the various accessory nasal sinuses, are as a rule excellent and add greatly to the value of the work. They are printed on rather better paper than the rest of the book. The book is divided into three parts. Therapeutics, new treatment and a miscellaneous section. A list of new medical books published during 1904 is given, but these are chiefly American and too incomplete to be of much value. An index at the close renders the subject matter easy of access in looking up recent views on any particular subject, but the work can be read continuously like any text-book should the reader desire to keep in touch with advances in all fields.

AMERICAN ALKALOMETRY. Vol IV. A Digest of Clinic Teachings, 1902 and 1903. Edited by W. C. Abbott, M. D., and W. F. Waugh, M. D. Cloth, \$2.00 net. Pages 735. The Clinic Publishing Co. 1905.

The latest addition to the alkaloidal series is made up chiefly of the literature which has appeared in the alkaloidal clinic during the years 1902 and 1903. The editors of the volume have added their views freely at the end of many of the articles. A wide range of subjects in practice and therapeutics are considered, the clinical side being of course foremost. The arrangement of articles is simple as they have followed alphabetically the titles. The index at the close includes the names of the writers as well as the subjects, and so gives an additional means of finding what is wanted. The book is neatly gotten up and the type and paper are good.

Progress of Medical Science.

MEDICINE.

Under the Charge of

HARRISON D. JENKS.

Treatment of Leukemia with the Roentgen Ray.—Some interesting work has been done by E. Meyer and O. Eisenreich in the treatment of leukemia by the X-ray. They report in detail two cases. In both marked improvement occurred under the X-ray. In the first patient, that of a machinist, age 31, treatment was started in May, 1904. The blood then showed, hemoglobin 72 per cent. red cells 3,160,000, white 142,000. In two weeks under 8 to 10 minutes' exposure of the ray, his general condition had distinctly improved. The leucocytes gradually decreased from 142,000 in May to 6,000 in September. After that, in spite of treatment, they gradually increased until in December, when they were 22,000. The red cells and the hemoglobin practically became normal. He still maintained his improved condition; the spleen got back to normal size. The other patient was a woman, age 24. In March, 1904, she came under observation. Her condition was more serious. Hemoglobin 40.5 per cent., leucocytes 410,000, red 2,860,000. She was under treatment until November, 1904, when the leucocytes were 149,000. Since treatment was stopped the leucocytes gradually increased. Still the general condition remained improved. Heineke has lately shown that X-ray treatment causes improvement by structural changes in the organs, perhaps also by phagocytosis.

Wendel, in the same journal, gives a statistical paper in which he has collected 38 cases of leucæmia from literature that have been treated by the Roentgen ray, and he adds another of his own. The leucocytes in his patient fell from 56,000 to 16,000. He finds from analysis of these cases that 90 per cent. were improved, but it was practically in the chronic and subacute types only that these results were obtained. The myeloid forms offer the best prognosis. The literature dates back to 1903 when the first patients were treated by Senn.

In the symposium, another paper offered by Schieffer, adds five more to the list, and he claims cures in three of them, improvement in one and the other stopped treatment. Schieffer believes that the ray offers the best treatment we have at present for the disease. It should be started early. He exposes the spleen only to the light, while the others expose larger surfaces. (*Muenchener Medizinische Wochenschrift*, Jan. 24, 1905.)

Intravenous Injections of Salicylate of Sodium and Its Diagnostic Value.—Mendel uses a solution of sodium salicylate 8.75, caffeine 1.25, distilled water 50. He uses of this 2 cc. at intervals of twelve hours to three days as an intravenous injection usually given in the arm. In severe cases he uses 4 cc. He claims for this method rapid relief from pain and removal of fluid from the joints, results which he has got in no other way. He is apparently a believer in intravenous treatment, as he has used the method in upward of 8,000 patients for all sorts of diseases, and has never had any untoward results. The above formula has been used by him in two thousand rheumatics without any bad results. He finds this formula of value in puzzling joint affections in differentiating the rheumatic from the others. (*Muench. Med. Wochens.*, Jan. 24, 1904.)

Prevention of Apoplexy.—Allbutt says that "strokes" are of several kinds, but he confines himself in this paper to the cases where the disease is of long standing and can be found in the arteries about the seat of the hemorrhage. Post-mortem, these show no effusion of blood, but the circulation of the brain has been arrested by a slitting up of the arteries rather than by rupture of them. The heart here does not show hypertrophy, but rather an atrophy. The arteries present calcification of the middle coat. The kidneys are not granular. In another class of cases the brain is healthy, the heart hypertrophied, the arteries spoiled. The trouble then lies in the mechanism of the circulation, and that chiefly in the arteries. These cases may present high arterial pressure due to contraction of the arteries, or they may have no rise of pressure at all. In the cases without rising pressures arterial spasm is present.

He says then that the prevention of apoplexy will be found in the preventing of the special tendency to a persistent mean rise. Arteriosclerosis is not the cause but the consequence of rising arterial pressure. The man of over forty should have his blood pressure measured every five years until sixty, and if there is no great increase in the pressure until then, the danger of apoplexy can be disregarded. If the pressure is found increasing, his mode of life must be revised. If a slight attack has occurred there is even more reason for changing the mode of living. (T. C. ALLBUTT, *Bristol Medico-Chirurgical Journal*, Mar., 1905.)

DISEASES OF THE NERVOUS SYSTEM.

Under the Charge of

GUY L. CONNOR.

The Special Field of Neurological Surgery.—

I wish to point out some of the present possibilities of affording surgical relief in certain maladies for which the outlook is otherwise forlorn, and to lay stress on certain points that give us hope for the future. I shall keep away from the beaten paths; for that a cerebral abscess should be evacuated, a ruptured meningeal vessel tied, the spinal cord relieved from pressure and a severed nerve sutured, has long needed no comment.

BRAIN AND MENINGES.

After extirpation of tumors of the brain and meninges, perfect functional restoration has taken place in many cases, for we know that a considerable percentage of these growths originate in the meninges, and being by nature non-infiltrating, damage the cerebrum by a compressive invasion alone.

Palliative operations, both for the supposedly inaccessible growths as well as for those which in the light of our present knowledge still remain non-localizable, should be done early. These palliative operations are done especially for the preservation of vision, particularly in those cases in which the intellectual faculties are in no way disturbed.

Extradural forms of circumscribed effusions which are usually due to laceration of a branch of the meningeal artery have long been recognized as distinctly and urgently operable. Interference with other varieties of hemorrhage is less commonly advocated. Nevertheless we are coming to feel that the diffuse subdural hemorrhage associated with fracture of the base of the skull, the hemorrhage which occurs in the new-born (both of which follow the rupture of veins alone), and also the arterial hemorrhage of the adult into the brain substance, in selected cases, are as properly and advisedly attacked surgically as are the more accessible localisable and easily treated effusions of blood.

Drainage of the meningeal spaces, when they are infected, is by no means a hopeless surgical problem, although much is to be learned by experience of the ways and means to this end. In the epidemic forms of meningitis, so far, no permanent beneficial effects have been observed through surgical intervention, though the symptoms frequently abate in a great measure and life may be seemingly prolonged.

SPINAL CORD.

The primary growths are usually benign; they spring from the meninges; they are easily enu-

cleable; and if removed early, there is complete restoration of the function of the cord.

The indications for surgical intervention in cases of spinal traumatism when there is evidence of injury to the cord, have given rise to much discussion. I have divided these cases into three categories: (1) Those in which an operation is contra-indicated because it can do no good and may increase the damage already done. To this group belong the traumatic haemato myelias. These, up to a certain point, are recoverable by natural processes of repair. (2) Cases of fracture-dislocation, which are relatively common and which so far as we know are beyond all hope of restoration, owing to the complete transverse nature of the lesion. In these operation can do no harm, but it is an unjustifiable ordeal for both patient and operator. (3) Cases of partial injury to the cord with symptoms (which are increased and perpetuated by pressure) from a foreign body such as a fragment of bone or bullet, form a group in which an operation undoubtedly will do good if properly done.

PERIPHERAL NERVES.

Langley was among the first to put to experimental test the possibility of nerve crossing, through which has been opened up such a promising field for peripheral nerve operations. During the process of reunion of a divided nerve, it is hardly conceivable that each fibre will make connection with its own original fibre in the peripheral stump and thus find its way to its original end organ. If this is so, why should it not be possible to graft the peripheral end of one severed nerve, whose central connections have been destroyed, with the central end of another nerve of like nature which has not suffered injury? It has been shown that this not only is possible, but that at least for the extremities a re-education of the central activities take place (particularly in young individuals) to such a degree that practically the normal function is resumed, one group of cells sufficing to preside over its own as well as over the territory of the nerve originally injured. The possibilities of nerve anastomosis do not end here with the grouping of like upon like, for Langley has demonstrated the surprising fact that nerves, normally subserving different functions, may under favorable circumstances be interposed.—(HARVEY CUSHING, *Bulletin of the Johns Hopkins Hospital*, March, 1905).

SURGERY.

Under the Charge of

MAX BALLIN.

Progress in Diagnosis and Treatment of Perforative Peritonitis.—Death in peritonitis after perforation of intestines, appendix, etc., is in many cases due not only to the pus in the peritoneal cavity, but to paralysis of the bowels, stagnation of the fecal contents in the bowels, and the consequent toxemia. If the pus has been evacuated, and tympanitis should occur or persist, enterostomy should be performed. The author treated during the acute stage of peritonitis, eleven (11) cases with enterostomy, of which seven (7) cases recovered. As long as the intestines are still able to contract, one incision will be sufficient, but in a case where the bowels were entirely paralyzed, the author successfully incised the intestine in three places in order to remove the toxic contents. The method used is as follows: Through a small laparotomy wound (if a former operation has taken place, the same opening is used) a small trocar is introduced into the intestine under due protection of the abdominal cavity by gauze packing. The fecal matter is removed through a rubber tube attached to the trocar, the outflow being facilitated by irrigation. Enterostomy is best performed early, before the intestine muscles are entirely paralyzed. (DR. BARTH, *Danzig, Deutsche Medicinische Wochenschrift*, No. 10, 1905.)

A Plea for Radical Surgical Treatment of Chronic Gastric Ulcer.—Gastric ulcer should be treated surgically:

1. If hemorrhages endanger the life of the patient.
 - (a) Acute profuse hemorrhage.
 - (b) Repeated lesser hemorrhage.
2. In case of perforation of the ulcer, operation is imperative.
3. If there is a stricture of the pylorus, an operation is also clearly indicated.
4. In case of adhesions between gastric ulcer and abdominal wall or other organs adjacent, indication for operation depends upon the symptoms caused by the adhesions.
5. Gastric ulcers resisting internal treatment should be operated upon.

The ideal operation is the radical excision of the ulcer; gastro-enterostomy and pyloroplasty can not be considered but as palliative operations. This same rule applies to the stricture of pylorus caused by ulcer. Radical excision is the only sure way for complete relief. (A. KROGNIS, *Archiv. fuer Klinische Chirurgie*, Vol. 75, part 5, 1905.)

A Case of Cervical Rib with Symptoms Resembling Subclavian Aneurism.—Cervical ribs do not develop until the patient is well into adult life. In 29 cases, the average age at which symptoms were caused by cervical rib was 27 years. Why the cervical rib should increase at this period of life is not known. The rib not only increases in length, but also in diameter, as the distance from the spine increases. As the cervical rib develops, beneath and behind the brachial plexus, and carries the nerve and the subclavian artery forward, it presses the nerves against the lower portion of scalenus anticus muscle. The vein being anterior and external to the muscle is never compressed. Hence the symptoms of cervical rib are: (a) Pressure on the nerve-trunks of the brachial plexus (paraesthesia followed later on by anesthesia, neuralgic pains, paralysis.) (b) Pressure on the subclavian artery, (brachial ischaemia, aneurism, thrombosis, gangrene.) (c) Tumor formation in the supraclavicular triangle. The cervical rib exists on both sides in 67 per cent., or on one side in 33 per cent. of the cases in which they are found.

The author reports a typical case, in a man of 38 years of age, who suffered from tingling in the left hand, severe pain in the radial side of the hand, coldness and paleness of the left forearm, weakening of the muscular power in the left arm. A pulsating prominence was seen and felt over the inner and middle third of the left clavicle.

Excision of the cervical rib gave a complete cure. (JOHN B. MURPHY, M. D., *Annals of Surgery*, March, 1905.)

Typhoid Perforation.—Morris Manges, New York City (*Journal A. M. A.*, March, 1905), reports nineteen cases of perforation in typhoid, with sixteen operations and five recoveries. He considers that the most important facts in the diagnosis are the marked change in the patient's condition with the abdominal pain, which is very variable, and that the other abdominal conditions, distension, rigidity, tenderness, liver dullness, etc., with the anxious facies and sweating, are valuable aids in the diagnosis. Changes in the rate and character of the pulse are of more value than temperature or respiration. Manges believes in the occasional spontaneous cure of this condition, and refers to one case in his series in which this apparently occurred, and to another, in which, at the autopsy, a small perforation was found well sealed by omentum. The rule to operate, however, is not vitiated by these rare occurrences, and operation itself does not add to the dangers and may be effective in preventing a perforation where one is not found.

GYNECOLOGY AND OBSTETRICS.

Under Charge of

B. R. SCHENCK.

The Diagnosis of Pregnancy in the Early Months.—An excellent discussion of this important subject is given in a recent article by Skutsch. Although the diagnosis is often difficult, the errors usually result from either omitting or carelessly making the examination.

The differential diagnosis from pregnancy must be made in a very large proportion of all cases which the practitioner sees, and it cannot be too frequently or too strongly emphasized that one must, in every case, no matter what are the circumstances, bear in mind the possibility of pregnancy. As an example of this necessity, the writer cites the case of a patient who consulted him four weeks after the last menstruation, for sterility and dysmenorrhoea. On making a careful bimanual examination, there was a suspicion of pregnancy and the passage of a sound being omitted, the patient was confined nine months later.

Of subjective symptoms (of more value in the case of a multipara than of a primipara) vomiting is of importance only when the patient is in perfect health; chloasma comes in other conditions; pigmentation of the linea alba is important, only when above the umbilicus; swelling of the breasts occurs in other conditions; the palpation of the acini of the glands and the secondary areolae are important; cessation of menstruation occurs in many conditions and irregular flowing may occur throughout pregnancy.

Purplish discoloration of the introitus and the vagina is a trustworthy sign, particularly in nulliparae, and when it increases from below upward. The reddish striations around the urethra, which disappear when the uterus is emptied or the foetus is dead, form a valuable sign.

Pulsation of the uterine vessels and thickening of the ureters should be felt for. Enlargement of the uterus, in correspondence with the computed time and softening of the fundus and cervix, together with Hegar's sign (ability to compress the lower uterine segment over the internal os cervicis) are valuable points in evidence of pregnancy. The changes in the consistency of the fundus, from time to time (Braxton Hick's sign), are particularly helpful, as are also the variations in consistency of different portions of the uterine wall at the same time.

Asymmetry, varying according to the position of the ovum, is often present, the uterine muscle at the site of the insertion being softer, more

elastic and slightly tender to the touch. When there is asymmetry, Hegar's sign is often absent.

The heart sounds can be heard in some cases as early as the thirteenth, and in most cases by the sixteenth week.—(*Muenchener Med. Woch.*, Jan. 31, 1905).

Primary Tuberculosis of the Breast.—Spencer states that primary tuberculosis of the breast is a rare affection, there being, according to Gautier, only about one hundred instances in the literature, of which but sixty-five were absolutely proven by histologic examination or by finding the tubercle bacilli. Of these, only twelve were definitely proven as primary. Halstead and LeCount believe that the infection is most frequently a retrogressive one, through the lymphatics from the axilla or thoracic cavity. There are only a few cases on record in which the diagnosis was made before operation.

As the conservative treatment has not been attended with good results, Spencer recommends that the breast, together with the skin, the glands, fat and fascia from the axilla should all be removed in one piece.

Spencer's case occurred in a single woman, aged 22, in whose family history there was no suspicion of tuberculosis. With the exception of measles and pertussis, the patient had always been well, until a year before consulting the writer, at which time she was operated upon for enlarged glands of the right axilla. The patient asserted that at the time of this operation there was a tumor in the outer side of the breast, which had been present before the glands began to enlarge.

The girl was well nourished and careful general examination was negative. In the upper and outer quadrant of the right breast was a distinct mass, about three fingers in width and four in length. On pressure, purulent fluid escaped from some sinuses in the axilla. There was neither pain nor tenderness.

The breast was circumscribed by two curvilinear incisions with the apex prolonged outward and terminated just above the anterior axillary fold. The entire breast and contents of the breast were removed. Microscopic examination of the tissue, stained by the Nielson-Gabbet method, revealed tubercle bacilli. The lymph glands were found to be involved.—(*American Medicine*, March 18, 1905).

THERAPEUTICS AND PHARMACOLOGY.

Under the Charge of

W. J. WILSON, JR.

Pulmonary Tuberculosis.—From what I have said you may draw two inferences: The first is that tuberculosis is not invariably and inevitably a disease which progresses to a fatal termination. The lesson of the climate cure and the discovery of cicatrized and healed cavities in the dead room demonstrate that the dread white plague may be cured. The second inference relates to the climate cure. What is its essential attribute? Doubtless, fresh air. Well, the poorest patient may have this at his command. Well protected against chill and weather he may walk, he may sit, or lie in the open air all day and all night. In order to combat the emaciation, the patient should be fed as liberally as possible with nutritious food. Meats, eggs, milk, cream, Kumyss, and as much fat as can be tolerated fulfil the indications, and the dishes ought to be prefaced with sufficient variety to prevent repugnance. Houses, and especially living rooms, should be ventilated as effectually as possible. Whatever medicinal substances are employed should be those which promote nutrition. Cod-liver oil is an old and approved remedy. It improves the appetite and digestion, increases the number of red blood corpuscles and exerts a beneficial influence upon the central nervous system. Its taste and smell are extremely nauseating to many individuals, but this disadvantage can be overcome by some special mode of preparation. A dose may be enclosed in a capsule or the oil may be made into an emulsion and flavored with some palatable ingredient. An egg and a portion of Jamaica rum disguise the taste of the oil. A mixture of the oil and extract of malt can usually be taken without difficulty. The compound syrup of the hypophosphates or the syrup of calcium lactophosphate answer a useful purpose. The glycerophosphates are likewise of benefit on account of their reconstructive properties. Creosote made from beechwood is the most satisfactory single remedial agent which we have for the treatment of phthisis. It possesses a number of valuable properties. It is antiseptic, antifermentative, and allays the gastro-intestinal catarrh so common in tuberculous patients. It

improves the appetite and digestive power. It is eliminated by the bronchial mucous membrane. In escaping by way of the respiratory passages it lessens the sputum and restrains the activity of the bacilli. It does not destroy the organisms, but modifies the soil so that the bacilli can no longer thrive. If given too long or in too large doses or to peculiarly susceptible individuals, creosote is capable of injuring the kidneys. When the patient has exacerbations of fever every afternoon or evening he should be put to bed and given a moderate dose of wine and whiskey. It is also well to have his system under the influence of quinine. Night sweats may be counteracted by rubbing with vinegar and water or alcohol and water. If this does not suffice, atrophine in the dose of 1/80 to 1/60 grain has a good effect. Some prefer agaricin in the dose of 1/12 to 1 grain. Of late years camphor acid has gained an excellent reputation. There is a host of remedies which have been administered in this disease, but I wish to insist to-day upon the importance of a few great cardinal points: The value of fresh air, of hygienic life, and the use of creosote as a remedy.—(SHOEMAKER, *Med. Bulletin*, February, 1905).

Mesotan in Rheumatism.—Mesotan is the methyl-oxy-methyl ester of salicylic acid. It is a clear, yellowish, oily liquid, with a pronounced ethereal but not unpleasant odor. It is formed by the action of formaldehyde, methyl alcohol, and hydrochloric acid or sodium salicylate, and contains approximately 71 per cent. of salicylic acid. It is sparingly soluble in water, but more freely in oils. Mesotan depends for its action on the absorption of the drug through the skin. It has been shown that even though it exerts a general effect, it has a still more marked local action. To produce its analgesic effect on a painful joint or muscle it is sufficient to apply the medicament to the overlying skin and cover it lightly with linen or muslin as a protective. Oiled paper or muslin is unnecessary, and nothing is gained by rubbing it on. Reports of successful use in many cases are appended.—(KIEFER, *Therap. Gazette*, March 5, 1905).

BACTERIOLOGY AND PATHOLOGY.

Under the Charge of

H. S. OLNEY.

The Smallpox Question.—In the *Journal of Medical Research* for February, 1904, Councilman, Magrath and Brinkerhoff published their work on the pathological anatomy and histology of variola. They described the parasite of variola, which they regarded as a protozoa, and adopted the name given to similar structure by Guarneri, in 1892, "cytoryctes variolae." They claimed that cytoryctes variolae are the cause of variola; that they are always associated with the lesions of this disease; that they develop as the lesions develop; and that they are found under no other circumstances.

Their assertions met severe criticism from men who claimed that the so called parasites were nothing more than degeneration products or due to technique in fixing or staining, and that similar bodies have been found in other conditions. Since then there have been a number of articles published more or less confirming Councilman's work but all open to the same objections as to fixatives, etc.

Ewing (*Journal of Medical Research*, February, 1905) has somewhat simplified matters by using "Klatsch" preparations. That is, he uses a perfectly clean cover glass which he presses lightly over a vaccine vesicle, preferably of the cornea, and in this way causes isolated epithelial cells to adhere to the cover slip. These dry almost instantaneously, thus preventing fixation artefacts, and they can be stained easily and quickly. He describes bodies similar to those found by Councilman, but does not exactly agree with him as to their being protozoan. However, he thinks they certainly are specific for vaccinia and variola.

The Cancer Question.—The etiology of cancer is apparently as far from a satisfactory solution as ever. Every year or so "cancer bodies" have been described and vigorously upheld as the cause of this disease.

Cell inclusions have been described by Plimmer, Gaylord, Feinberg, von Leyden and many others, and there cannot be any doubt as to their occurrence; but that they bear any relation to the cause of cancer finds little or no support in fact. Greenough (*Journal of Medical Research*, January, '05) in the third report of the Cancer Investigating Committee of Harvard University, states his conclusions as follows:

1. The typical cell inclusions of cancer are practically constant in cancer of glandular origin.

2. They are not found in epithelioma and are almost invariably absent in sarcoma.

3. Their size, structure, and staining reactions are such as to justify the assumption that they are vacuoles in the cell protoplasm containing a material which is coagulated and shrunken by the use of tissue fixatives.

4. The occurrence of vacuoles of this nature is chiefly a phenomenon of cell secretion.

5. Similar vacuoles may be produced, however, in certain cases by phagocytosis and by degenerations of the nucleus.

6. Secretion vacuoles of the form of typical cancer cell inclusions are found in certain *non cancerous* diseases of the mammary gland.

7. In such cases the secretion vacuole occupies a position between the nucleus and the lumen of the gland.

8. The inclusions of adenocarcinoma occupy a similar position between the nucleus and the lumen of the gland.

9. In more advanced carcinoma the gland lumen is lost. The secretion vacuole cannot escape, and remains within the cancer cell to undergo further increase and ultimate degeneration.

10. Cell secretion is a function which is lost in the progressive anaplasia of cancer cells.

11. Cell inclusions are more frequent in slow growing cancer, and less numerous in advanced cancer with rapid cell division.

12. No reason exists for the interpretation of these appearances as of parasitic origin.

The Action of the X-Ray.—Morton's article in the *Journal American Medical Association*, April 1, 1905, is along the same lines as his previously published ones. He thinks the effects of the X-rays are mainly due to the fluorescence which is excited thereby in the animal tissues. Fluorescence is the property which certain substances have of absorbing invisible or visible rays and giving out visible light. He quotes a number of authorities to show that normal tissues possess the property of fluorescence to a greater or less degree. Morton increases this fluorescence artificially by administering to his patients some of the known fluorescent bodies such as quinin, esculin, eosin, fluorescin, etc. By the use of the X-ray or radium, he claims his results are far superior to those obtained by the X-ray alone, and in many cases this combination cures, where the X-ray alone is entirely inadequate. He regards the fluorescent fluids as the curative agent, and the X-ray or radium merely as the excitant of the fluorescence.